

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of: Wei Gu

Serial No.: N/A

Filed: Herewith

For: NOVEL G-PROTEIN COUPLED
RECEPTORS AND USES THEREFOR

Attorney Docket No.: MNI-080CP

BOX SEQUENCE

Commissioner for Patents
Washington, D.C. 20231

TRANSMITTAL LETTER FOR DISKETTE CONTAINING SEQUENCE LISTING

Dear Sir:

Enclosed is a diskette which contains a computer readable form of the Sequence Listing for the patent application filed herewith. The Sequence Listing complies with the requirements of 37 C.F.R. § 1.821. The information recorded in computer readable form is identical to the written Sequence Listing appearing on pages 1-45 submitted herewith, as required by 37 C.F.R. §1.821(f). The computer readable form of the Sequence Listing contained on the enclosed diskette is understood to comply with the requirements of § 1.824(d).

"Express Mail" mailing label number: EL 683 638 611 US

Date of Deposit: May 8, 2001

I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to the Commissioner for Patents, Box Patent Application, Washington, D.C. 20231.

Signature

Ilidio P. Cardoso

Please Print Name of Person Signing

LAHIVE & COCKFIELD, LLP
Attorneys at Law

By 

Amy E. Mandragouras, Esq.
Registration No. 36,207
28 State Street
Boston, MA 02109
Telephone: 617-227-7400
Facsimile: 617-742-4214

SEQUENCE LISTING

<110> Gu, Wei

<120> NOVEL G-PROTEIN COUPLED RECEPTORS AND USES THEREFOR

<130> MNI-080CP

<140>

<141>

<150> 09/556,588

<151> 2000-05-08

<150> 60/132,896

<151> 1999-05-06

<160> 12

<170> PatentIn Ver. 2.0

<210> 1

<211> 3637

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (222)..(3122)

<220>

<221> misc_feature

<222> (3554)

<223> n = any nucleotide

<400> 1

gtcgacccac gcgtccgcac tcaacaatgc ctgcccctct ctgactgcac cgtcccgccg 60

ccgctgcgcg cgccgcgccc aagccaagtc gagcgggggc gttgcccacc gacggcacag 120

cccttggggc cgcccgggac caggaggtga gccgcgcgcg cacagctccg tgcgctcgcc 180

cgtctgagcg cccgccaggt gccccgcagc ccgccgccga g atg cac agc ccg cct 236
Met His Ser Pro Pro

1

5

ggg ctc ctg gcg ctg tgg ctt tgc gct gtg ctg tgc gca tcg gcg cgc 284
Gly Leu Leu Ala Leu Trp Leu Cys Ala Val Leu Cys Ala Ser Ala Arg

10

15

20

ggg ggc agc gac ccc cag cct ggc ccg ggg cgt ccc gcc tgc ccg gct 332
Gly Gly Ser Asp Pro Gln Pro Gly Pro Gly Arg Pro Ala Cys Pro Ala

25

30

35

ccc tgc cac tgc cag gag gac ggc atc atg ctg tcc gct gac tgc tcc 380
Pro Cys His Cys Gln Glu Asp Gly Ile Met Leu Ser Ala Asp Cys Ser

40

45

50

gag ctc ggg ctc tca gtg gtg cct gcg gac ctg gac ccc ctg acg gct	428
Glu Leu Gly Leu Ser Val Val Pro Ala Asp Leu Asp Pro Leu Thr Ala	
55 60 65	
tac cta gac ctc agt atg aac aac ctc acg gag ctt cag ccg ggt ctc	476
Tyr Leu Asp Leu Ser Met Asn Asn Leu Thr Glu Leu Gln Pro Gly Leu	
70 75 80 85	
ttc cac cac ctg cgc ttc ctg gag gag ctg cgg ctc tca ggg aac cac	524
Phe His His Leu Arg Phe Leu Glu Glu Leu Arg Leu Ser Gly Asn His	
90 95 100	
ctc tca cac atc ccg gga cag gca ttc tcc ggc ctc cac agc ctc aaa	572
Leu Ser His Ile Pro Gly Gln Ala Phe Ser Gly Leu His Ser Leu Lys	
105 110 115	
att cta atg ctg cag agc aac cag ctc cgt ggg atc cca gca gag gca	620
Ile Leu Met Leu Gln Ser Asn Gln Leu Arg Gly Ile Pro Ala Glu Ala	
120 125 130	
cta tgg gag ctg ccc agc ctg cag tcc ctg cgc cta gat gct aat ctc	668
Leu Trp Glu Leu Pro Ser Leu Gln Ser Leu Arg Leu Asp Ala Asn Leu	
135 140 145	
atc tcc ctg gtc cct gag aga agc ttt gag ggg ctc tcc tcc ctc cgc	716
Ile Ser Leu Val Pro Glu Arg Ser Phe Glu Gly Leu Ser Ser Leu Arg	
150 155 160 165	
cac ctc tgg ctg gat gac aat gca ctc act gag atc ccc gtc aga gct	764
His Leu Trp Leu Asp Asp Asn Ala Leu Thr Glu Ile Pro Val Arg Ala	
170 175 180	
ctc aac aac ctt cct gcc cta cag gcc atg acc ttg gct ctc aac cat	812
Leu Asn Asn Leu Pro Ala Leu Gln Ala Met Thr Leu Ala Leu Asn His	
185 190 195	
atc cgc cac atc cct gac tat gcc ttc cag aac ctc acc agt ctt gtg	860
Ile Arg His Ile Pro Asp Tyr Ala Phe Gln Asn Leu Thr Ser Leu Val	
200 205 210	
gtg ctg cat cta cat aac aac cgc atc cag cat gtg ggg acc cac agc	908
Val Leu His Leu His Asn Asn Arg Ile Gln His Val Gly Thr His Ser	
215 220 225	
ttc gag ggg ctg cac aat ctg gag aca cta gac ctg aac tat aat gag	956
Phe Glu Gly Leu His Asn Leu Glu Thr Leu Asp Leu Asn Tyr Asn Glu	
230 235 240 245	
ctg cag gag ttc ccc ttg gct atc cgg acc ctg ggc agg ctg cag gaa	1004
Leu Gln Glu Phe Pro Leu Ala Ile Arg Thr Leu Gly Arg Leu Gln Glu	
250 255 260	
ttg ggt ttc cat aac aac aac atc aag gct atc cca gag aaa gcc ttc	1052
Leu Gly Phe His Asn Asn Asn Ile Lys Ala Ile Pro Glu Lys Ala Phe	
265 270 275	

atg ggc aac cct ctc ctg cag aca ata cat ttt tat gac aac cca atc	1100
Met Gly Asn Pro Leu Leu Gln Thr Ile His Phe Tyr Asp Asn Pro Ile	
280 285 290	
cag ttt gtg gga agg tca gca ttc cag tac ctg tct aaa ctg cat acg	1148
Gln Phe Val Gly Arg Ser Ala Phe Gln Tyr Leu Ser Lys Leu His Thr	
295 300 305	
cta tct ttg aat ggt gcc act gat atc caa gag ttc cca gac ctc aaa	1196
Leu Ser Leu Asn Gly Ala Thr Asp Ile Gln Glu Phe Pro Asp Leu Lys	
310 315 320 325	
ggc acc act agc ctg gag atc ctg acc ctg acc cgt gcg ggc atc aga	1244
Gly Thr Thr Ser Leu Glu Ile Leu Thr Leu Thr Arg Ala Gly Ile Arg	
330 335 340	
ctg ctc cca ccg gga gtg tgc caa cag ctg cct agg ctc cga atc ctg	1292
Leu Leu Pro Pro Gly Val Cys Gln Gln Leu Pro Arg Leu Arg Ile Leu	
345 350 355	
gag ctg tct cat aat cag atc gag gag tta ccc agc ctg cac aga tgt	1340
Glu Leu Ser His Asn Gln Ile Glu Glu Leu Pro Ser Leu His Arg Cys	
360 365 370	
cag aag ctg gag gaa att ggc ctc cga cat aac agg atc aag gaa att	1388
Gln Lys Leu Glu Glu Ile Gly Leu Arg His Asn Arg Ile Lys Glu Ile	
375 380 385	
ggt gca gat acc ttc agc cag ctg ggc tcc ttg caa gct tta gac ctg	1436
Gly Ala Asp Thr Phe Ser Gln Leu Gly Ser Leu Gln Ala Leu Asp Leu	
390 395 400 405	
agt tgg aat gcc atc cgt gcc atc cac cct gag gct ttc tca acc ctt	1484
Ser Trp Asn Ala Ile Arg Ala Ile His Pro Glu Ala Phe Ser Thr Leu	
410 415 420	
cga tcc ttg gtt aag ctg gac ctg act gac aac cag ctg acc aca ctg	1532
Arg Ser Leu Val Lys Leu Asp Leu Thr Asp Asn Gln Leu Thr Thr Leu	
425 430 435	
ccc ctg gct ggg ctg gga ggc ctg atg cac ctg aag ctc aaa ggg aac	1580
Pro Leu Ala Gly Leu Gly Gly Leu Met His Leu Lys Leu Lys Gly Asn	
440 445 450	
ttg gcc ctg tct cag gcc ttc tcc aag gac agt ttc cca aaa ctg agg	1628
Leu Ala Leu Ser Gln Ala Phe Ser Lys Asp Ser Phe Pro Lys Leu Arg	
455 460 465	
atc ctg gag gtg ccc tac gcc tac cag tgc tgt gcc tac ggc atc tgt	1676
Ile Leu Glu Val Pro Tyr Ala Tyr Gln Cys Cys Ala Tyr Gly Ile Cys	
470 475 480 485	
gcc agc ttc ttc aag acc tct ggg cag tgg cag gcc gag gac ttt cat	1724
Ala Ser Phe Phe Lys Thr Ser Gly Gln Trp Gln Ala Glu Asp Phe His	
490 495 500	
cca gaa gaa gag gag gca cca aag agg ccc ctg ggt ctc ctt gct gga	1772

Pro	Glu	Glu	Glu	Glu	Ala	Pro	Lys	Arg	Pro	Leu	Gly	Leu	Leu	Ala	Gly		
			505					510					515				
caa	gct	gag	aac	cac	tat	gac	cta	gac	ctg	gat	gag	ctc	cag	atg	ggg	1820	
Gln	Ala	Glu	Asn	His	Tyr	Asp	Leu	Asp	Leu	Asp	Glu	Leu	Gln	Met	Gly		
		520					525				530						
aca	gag	gac	tca	aag	cca	aac	ccc	agt	gtc	cag	tgc	agc	cct	gtt	cca	1868	
Thr	Glu	Asp	Ser	Lys	Pro	Asn	Pro	Ser	Val	Gln	Cys	Ser	Pro	Val	Pro		
	535					540				545							
ggc	ccc	ttc	aag	ccc	tgc	gag	cac	ctc	ttt	gag	agc	tgg	ggc	atc	cgc	1916	
Gly	Pro	Phe	Lys	Pro	Cys	Glu	His	Leu	Phe	Glu	Ser	Trp	Gly	Ile	Arg		
550					555				560						565		
ctt	gct	gtg	tgg	gcc	atc	gtg	ctg	ctc	tcc	gta	ctc	tgt	aac	ggg	ctg	1964	
Leu	Ala	Val	Trp	Ala	Ile	Val	Leu	Leu	Ser	Val	Leu	Cys	Asn	Gly	Leu		
				570					575					580			
gtg	ctg	ctg	aca	gtc	ttt	gcc	agc	gga	ccc	agc	ccg	ctg	tcc	ccc	gtc	2012	
Val	Leu	Leu	Thr	Val	Phe	Ala	Ser	Gly	Pro	Ser	Pro	Leu	Ser	Pro	Val		
			585					590					595				
aag	ctt	gtg	gtg	ggt	gcg	atg	gca	ggc	gcc	aac	gcc	ctg	acg	ggc	att	2060	
Lys	Leu	Val	Val	Gly	Ala	Met	Ala	Gly	Ala	Asn	Ala	Leu	Thr	Gly	Ile		
		600					605					610					
tcc	tgt	ggt	ctc	ctg	gcc	tct	gtg	gac	gcc	ttg	acc	tat	ggt	cag	ttc	2108	
Ser	Cys	Gly	Leu	Leu	Ala	Ser	Val	Asp	Ala	Leu	Thr	Tyr	Gly	Gln	Phe		
	615					620					625						
gct	gag	tat	gga	gcc	cgc	tgg	gag	agc	ggt	ctg	ggc	tgc	cag	gct	acg	2156	
Ala	Glu	Tyr	Gly	Ala	Arg	Trp	Glu	Ser	Gly	Leu	Gly	Cys	Gln	Ala	Thr		
630					635					640					645		
ggc	ttc	ctg	gct	gtc	ctg	ggt	tca	gag	gcg	tcg	gtg	ctg	ctg	ctc	aca	2204	
Gly	Phe	Leu	Ala	Val	Leu	Gly	Ser	Glu	Ala	Ser	Val	Leu	Leu	Leu	Thr		
				650					655					660			
ctg	gcg	gcc	gtg	cag	tgc	agc	atc	tct	gtg	acc	tgc	gtc	cga	gcc	tac	2252	
Leu	Ala	Ala	Val	Gln	Cys	Ser	Ile	Ser	Val	Thr	Cys	Val	Arg	Ala	Tyr		
			665					670					675				
ggg	aag	gcg	ccg	tcg	cct	ggc	agc	gtc	cgc	gca	ggc	gca	ctg	gga	tgc	2300	
Gly	Lys	Ala	Pro	Ser	Pro	Gly	Ser	Val	Arg	Ala	Gly	Ala	Leu	Gly	Cys		
		680					685					690					
ctg	gcg	ctg	gcc	ggg	ctg	gcc	gca	gca	ctg	ccg	ctg	gcc	tcg	gtg	gga	2348	
Leu	Ala	Leu	Ala	Gly	Leu	Ala	Ala	Ala	Leu	Pro	Leu	Ala	Ser	Val	Gly		
		695				700					705						
gag	tat	ggc	gcc	tcc	cca	ctc	tgc	ctg	ccc	tac	gcc	cca	ccc	gag	ggc	2396	
Glu	Tyr	Gly	Ala	Ser	Pro	Leu	Cys	Leu	Pro	Tyr	Ala	Pro	Pro	Glu	Gly		
710					715					720					725		
cgg	ccg	gcc	gcc	ctg	ggc	ttc	gct	gta	gcc	ctg	gtg	atg	atg	aac	tcg	2444	
Arg	Pro	Ala	Ala	Leu	Gly	Phe	Ala	Val	Ala	Leu	Val	Met	Met	Asn	Ser		

[illegible]

cac ttg taaatatccc tctctgtttg tcctctcccc atccaatgat ggctgcttat 3172
His Leu

aaaagaaaga caactccaac tccatagcaa gatggccaac acctctgact ccattgttct 3232

ctctccacga cccctaacca atgagtgtt ccaagtcttg ctttgtcttg gccttcagct 3292

tcactttcac cctgggcctt ctctgtccaa tccaatactt ctgacagagg cctgggaaat 3352

ttgcatagga gaaaggagaa aagcaaaaga cagtgaagggt tattgggccc tgacagagcc 3412

atgatcagta agtgcagagt gatggggagg tctcacagag catgacactg gaagacaact 3472

accaaagaca ttggagagtc tcccctgtga catatagaat ataaaatgtg ttctgcgttc 3532

cattaatctt gacctatgct gngccaaagt gcttcctgtt aaaatacact ttggaagaca 3592

ttgaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaagggcg gccgc 3637

<210> 2

<211> 967

<212> PRT

<213> Mus musculus

<400> 2

Met His Ser Pro Pro Gly Leu Leu Ala Leu Trp Leu Cys Ala Val Leu
1 5 10 15

Cys Ala Ser Ala Arg Gly Gly Ser Asp Pro Gln Pro Gly Pro Gly Arg
20 25 30

Pro Ala Cys Pro Ala Pro Cys His Cys Gln Glu Asp Gly Ile Met Leu
35 40 45

Ser Ala Asp Cys Ser Glu Leu Gly Leu Ser Val Val Pro Ala Asp Leu
50 55 60

Asp Pro Leu Thr Ala Tyr Leu Asp Leu Ser Met Asn Asn Leu Thr Glu
65 70 75 80

Leu Gln Pro Gly Leu Phe His His Leu Arg Phe Leu Glu Glu Leu Arg
85 90 95

Leu Ser Gly Asn His Leu Ser His Ile Pro Gly Gln Ala Phe Ser Gly
100 105 110

Leu His Ser Leu Lys Ile Leu Met Leu Gln Ser Asn Gln Leu Arg Gly
115 120 125

Ile Pro Ala Glu Ala Leu Trp Glu Leu Pro Ser Leu Gln Ser Leu Arg
130 135 140

Leu Asp Ala Asn Leu Ile Ser Leu Val Pro Glu Arg Ser Phe Glu Gly
145 150 155 160

Leu Ser Ser Leu Arg His Leu Trp Leu Asp Asp Asn Ala Leu Thr Glu
 165 170 175
 Ile Pro Val Arg Ala Leu Asn Asn Leu Pro Ala Leu Gln Ala Met Thr
 180 185 190
 Leu Ala Leu Asn His Ile Arg His Ile Pro Asp Tyr Ala Phe Gln Asn
 195 200 205
 Leu Thr Ser Leu Val Val Leu His Leu His Asn Asn Arg Ile Gln His
 210 215 220
 Val Gly Thr His Ser Phe Glu Gly Leu His Asn Leu Glu Thr Leu Asp
 225 230 235 240
 Leu Asn Tyr Asn Glu Leu Gln Glu Phe Pro Leu Ala Ile Arg Thr Leu
 245 250 255
 Gly Arg Leu Gln Glu Leu Gly Phe His Asn Asn Asn Ile Lys Ala Ile
 260 265 270
 Pro Glu Lys Ala Phe Met Gly Asn Pro Leu Leu Gln Thr Ile His Phe
 275 280 285
 Tyr Asp Asn Pro Ile Gln Phe Val Gly Arg Ser Ala Phe Gln Tyr Leu
 290 295 300
 Ser Lys Leu His Thr Leu Ser Leu Asn Gly Ala Thr Asp Ile Gln Glu
 305 310 315 320
 Phe Pro Asp Leu Lys Gly Thr Thr Ser Leu Glu Ile Leu Thr Leu Thr
 325 330 335
 Arg Ala Gly Ile Arg Leu Leu Pro Pro Gly Val Cys Gln Gln Leu Pro
 340 345 350
 Arg Leu Arg Ile Leu Glu Leu Ser His Asn Gln Ile Glu Glu Leu Pro
 355 360 365
 Ser Leu His Arg Cys Gln Lys Leu Glu Glu Ile Gly Leu Arg His Asn
 370 375 380
 Arg Ile Lys Glu Ile Gly Ala Asp Thr Phe Ser Gln Leu Gly Ser Leu
 385 390 395 400
 Gln Ala Leu Asp Leu Ser Trp Asn Ala Ile Arg Ala Ile His Pro Glu
 405 410 415
 Ala Phe Ser Thr Leu Arg Ser Leu Val Lys Leu Asp Leu Thr Asp Asn
 420 425 430
 Gln Leu Thr Thr Leu Pro Leu Ala Gly Leu Gly Gly Leu Met His Leu
 435 440 445
 Lys Leu Lys Gly Asn Leu Ala Leu Ser Gln Ala Phe Ser Lys Asp Ser
 450 455 460

Phe Pro Lys Leu Arg Ile Leu Glu Val Pro Tyr Ala Tyr Gln Cys Cys
 465 470 475 480
 Ala Tyr Gly Ile Cys Ala Ser Phe Phe Lys Thr Ser Gly Gln Trp Gln
 485 490 495
 Ala Glu Asp Phe His Pro Glu Glu Glu Glu Ala Pro Lys Arg Pro Leu
 500 505 510
 Gly Leu Leu Ala Gly Gln Ala Glu Asn His Tyr Asp Leu Asp Leu Asp
 515 520 525
 Glu Leu Gln Met Gly Thr Glu Asp Ser Lys Pro Asn Pro Ser Val Gln
 530 535 540
 Cys Ser Pro Val Pro Gly Pro Phe Lys Pro Cys Glu His Leu Phe Glu
 545 550 555 560
 Ser Trp Gly Ile Arg Leu Ala Val Trp Ala Ile Val Leu Leu Ser Val
 565 570 575
 Leu Cys Asn Gly Leu Val Leu Leu Thr Val Phe Ala Ser Gly Pro Ser
 580 585 590
 Pro Leu Ser Pro Val Lys Leu Val Val Gly Ala Met Ala Gly Ala Asn
 595 600 605
 Ala Leu Thr Gly Ile Ser Cys Gly Leu Leu Ala Ser Val Asp Ala Leu
 610 615 620
 Thr Tyr Gly Gln Phe Ala Glu Tyr Gly Ala Arg Trp Glu Ser Gly Leu
 625 630 635 640
 Gly Cys Gln Ala Thr Gly Phe Leu Ala Val Leu Gly Ser Glu Ala Ser
 645 650 655
 Val Leu Leu Leu Thr Leu Ala Ala Val Gln Cys Ser Ile Ser Val Thr
 660 665 670
 Cys Val Arg Ala Tyr Gly Lys Ala Pro Ser Pro Gly Ser Val Arg Ala
 675 680 685
 Gly Ala Leu Gly Cys Leu Ala Leu Ala Gly Leu Ala Ala Ala Leu Pro
 690 695 700
 Leu Ala Ser Val Gly Glu Tyr Gly Ala Ser Pro Leu Cys Leu Pro Tyr
 705 710 715 720
 Ala Pro Pro Glu Gly Arg Pro Ala Ala Leu Gly Phe Ala Val Ala Leu
 725 730 735
 Val Met Met Asn Ser Leu Cys Phe Leu Val Val Ala Gly Ala Tyr Ile
 740 745 750
 Lys Leu Tyr Cys Asp Leu Pro Arg Gly Asp Phe Glu Ala Val Trp Asp
 755 760 765

Cys Ala Met Val Arg His Val Ala Trp Leu Ile Phe Ala Asp Gly Leu
770 775 780

Leu Tyr Cys Pro Val Ala Phe Leu Ser Phe Ala Ser Met Leu Gly Leu
785 790 795 800

Phe Pro Val Thr Pro Glu Ala Val Lys Ser Val Leu Leu Val Val Leu
805 810 815

Pro Leu Pro Ala Cys Leu Asn Pro Leu Leu Tyr Leu Leu Phe Asn Pro
820 825 830

His Phe Arg Asp Asp Leu Arg Arg Leu Trp Pro Ser Pro Arg Ser Pro
835 840 845

Gly Pro Leu Ala Tyr Ala Ala Ala Gly Glu Leu Glu Lys Ser Ser Cys
850 855 860

Asp Ser Thr Gln Ala Leu Val Ala Phe Ser Asp Val Asp Leu Ile Leu
865 870 875 880

Glu Ala Ser Glu Ala Gly Gln Pro Pro Gly Leu Glu Thr Tyr Gly Phe
885 890 895

Pro Ser Val Thr Leu Ile Ser Arg His Gln Pro Gly Ala Thr Arg Leu
900 905 910

Glu Gly Asn His Phe Ile Glu Ser Asp Gly Thr Lys Phe Gly Asn Pro
915 920 925

Gln Pro Pro Met Lys Gly Glu Leu Leu Leu Lys Ala Glu Gly Ala Thr
930 935 940

Leu Ala Gly Cys Gly Ser Ser Val Gly Gly Ala Leu Trp Pro Ser Gly
945 950 955 960

Ser Leu Phe Ala Ser His Leu
965

<210> 3

<211> 2901

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (1) .. (2901)

<400> 3

atg	cac	agc	ccg	cct	ggg	ctc	ctg	gcg	ctg	tgg	ctt	tgc	gct	gtg	ctg	48
Met	His	Ser	Pro	Pro	Gly	Leu	Leu	Ala	Leu	Trp	Leu	Cys	Ala	Val	Leu	
1				5				10						15		

tgc	gca	tcg	gcg	cgc	ggg	ggc	agc	gac	ccc	cag	cct	ggc	ccg	ggg	cgt	96
Cys	Ala	Ser	Ala	Arg	Gly	Gly	Ser	Asp	Pro	Gln	Pro	Gly	Pro	Gly	Arg	
			20					25					30			

ccc	gcc	tgc	ccg	gct	ccc	tgc	cac	tgc	cag	gag	gac	ggc	atc	atg	ctg	144	
Pro	Ala	Cys	Pro	Ala	Pro	Cys	His	Cys	Gln	Glu	Asp	Gly	Ile	Met	Leu		
35						40						45					
tcc	gct	gac	tgc	tcc	gag	ctc	ggg	ctc	tca	gtg	gtg	cct	gcg	gac	ctg	192	
Ser	Ala	Asp	Cys	Ser	Glu	Leu	Gly	Leu	Ser	Val	Val	Pro	Ala	Asp	Leu		
50						55						60					
gac	ccc	ctg	acg	gct	tac	cta	gac	ctc	agt	atg	aac	aac	ctc	acg	gag	240	
Asp	Pro	Leu	Thr	Ala	Tyr	Leu	Asp	Leu	Ser	Met	Asn	Asn	Leu	Thr	Glu		
65						70						75			80		
ctt	cag	ccg	ggg	ctc	ttc	cac	cac	ctg	cgc	ttc	ctg	gag	gag	ctg	cgg	288	
Leu	Gln	Pro	Gly	Leu	Phe	His	His	Leu	Arg	Phe	Leu	Glu	Glu	Leu	Arg		
			85						90						95		
ctc	tca	ggg	aac	cac	ctc	tca	cac	atc	ccg	gga	cag	gca	ttc	tcc	ggc	336	
Leu	Ser	Gly	Asn	His	Leu	Ser	His	Ile	Pro	Gly	Gln	Ala	Phe	Ser	Gly		
			100						105						110		
ctc	cac	agc	ctc	aaa	att	cta	atg	ctg	cag	agc	aac	cag	ctc	cgt	ggg	384	
Leu	His	Ser	Leu	Lys	Ile	Leu	Met	Leu	Gln	Ser	Asn	Gln	Leu	Arg	Gly		
			115						120						125		
atc	cca	gca	gag	gca	cta	tgg	gag	ctg	ccc	agc	ctg	cag	tcg	ctg	cgc	432	
Ile	Pro	Ala	Glu	Ala	Leu	Trp	Glu	Leu	Pro	Ser	Leu	Gln	Ser	Leu	Arg		
130						135						140					
cta	gat	gct	aat	ctc	atc	tcc	ctg	gtc	cct	gag	aga	agc	ttt	gag	ggg	480	
Leu	Asp	Ala	Asn	Leu	Ile	Ser	Leu	Val	Pro	Glu	Arg	Ser	Phe	Glu	Gly		
145						150						155			160		
ctc	tcc	tcc	ctc	cgc	cac	ctc	tgg	ctg	gat	gac	aat	gca	ctc	act	gag	528	
Leu	Ser	Ser	Leu	Arg	His	Leu	Trp	Leu	Asp	Asp	Asn	Ala	Leu	Thr	Glu		
			165						170						175		
atc	ccc	gtc	aga	gct	ctc	aac	aac	ctt	cct	gcc	cta	cag	gcc	atg	acc	576	
Ile	Pro	Val	Arg	Ala	Leu	Asn	Asn	Leu	Pro	Ala	Leu	Gln	Ala	Met	Thr		
			180						185						190		
ttg	gct	ctc	aac	cat	atc	cgc	cac	atc	cct	gac	tat	gcc	ttc	cag	aac	624	
Leu	Ala	Leu	Asn	His	Ile	Arg	His	Ile	Pro	Asp	Tyr	Ala	Phe	Gln	Asn		
195						200						205					
ctc	acc	agt	ctt	gtg	gtg	ctg	cat	cta	cat	aac	aac	cgc	atc	cag	cat	672	
Leu	Thr	Ser	Leu	Val	Val	Leu	His	Leu	His	Asn	Asn	Arg	Ile	Gln	His		
210						215						220					
gtg	ggg	acc	cac	agc	ttc	gag	ggg	ctg	cac	aat	ctg	gag	aca	cta	gac	720	
Val	Gly	Thr	His	Ser	Phe	Glu	Gly	Leu	His	Asn	Leu	Glu	Thr	Leu	Asp		
225						230						235			240		
ctg	aac	tat	aat	gag	ctg	cag	gag	ttc	ccc	ttg	gct	atc	cgg	acc	ctg	768	
Leu	Asn	Tyr	Asn	Glu	Leu	Gln	Glu	Phe	Pro	Leu	Ala	Ile	Arg	Thr	Leu		
			245						250						255		

[illegible]

Ala	Tyr	Gly	Ile	Cys	Ala	Ser	Phe	Phe	Lys	Thr	Ser	Gly	Gln	Trp	Gln		
				485					490					495			
gcc	gag	gac	ttt	cat	cca	gaa	gaa	gag	gag	gca	cca	aag	agg	ccc	ctg	1536	
Ala	Glu	Asp	Phe	His	Pro	Glu	Glu	Glu	Glu	Ala	Pro	Lys	Arg	Pro	Leu		
			500					505					510				
ggt	ctc	ctt	gct	gga	caa	gct	gag	aac	cac	tat	gac	cta	gac	ctg	gat	1584	
Gly	Leu	Leu	Ala	Gly	Gln	Ala	Glu	Asn	His	Tyr	Asp	Leu	Asp	Leu	Asp		
		515					520					525					
gag	ctc	cag	atg	ggg	aca	gag	gac	tca	aag	cca	aac	ccc	agt	gtc	cag	1632	
Glu	Leu	Gln	Met	Gly	Thr	Glu	Asp	Ser	Lys	Pro	Asn	Pro	Ser	Val	Gln		
	530					535					540						
tgc	agc	cct	gtt	cca	ggc	ccc	ttc	aag	ccc	tgc	gag	cac	ctc	ttt	gag	1680	
Cys	Ser	Pro	Val	Pro	Gly	Pro	Phe	Lys	Pro	Cys	Glu	His	Leu	Phe	Glu		
545					550					555					560		
agc	tgg	ggc	atc	cgc	ctt	gct	gtg	tgg	gcc	atc	gtg	ctg	ctc	tcc	gta	1728	
Ser	Trp	Gly	Ile	Arg	Leu	Ala	Val	Trp	Ala	Ile	Val	Leu	Leu	Ser	Val		
				565					570					575			
ctc	tgt	aac	ggg	ctg	gtg	ctg	ctg	aca	gtc	ttt	gcc	agc	gga	ccc	agc	1776	
Leu	Cys	Asn	Gly	Leu	Val	Leu	Leu	Thr	Val	Phe	Ala	Ser	Gly	Pro	Ser		
			580					585					590				
ccg	ctg	tcc	ccc	gtc	aag	ctt	gtg	gtg	ggg	gcg	atg	gca	ggc	gcc	aac	1824	
Pro	Leu	Ser	Pro	Val	Lys	Leu	Val	Val	Gly	Ala	Met	Ala	Gly	Ala	Asn		
		595					600					605					
gcc	ctg	acg	ggc	att	tcc	tgt	ggg	ctc	ctg	gcc	tct	gtg	gac	gcc	ttg	1872	
Ala	Leu	Thr	Gly	Ile	Ser	Cys	Gly	Leu	Leu	Ala	Ser	Val	Asp	Ala	Leu		
	610					615					620						
acc	tat	ggg	cag	ttc	gct	gag	tat	gga	gcc	cgc	tgg	gag	agc	ggg	ctg	1920	
Thr	Tyr	Gly	Gln	Phe	Ala	Glu	Tyr	Gly	Ala	Arg	Trp	Glu	Ser	Gly	Leu		
625					630				635						640		
ggc	tgc	cag	gct	acg	ggc	ttc	ctg	gct	gtc	ctg	ggg	tca	gag	gcg	tgc	1968	
Gly	Cys	Gln	Ala	Thr	Gly	Phe	Leu	Ala	Val	Leu	Gly	Ser	Glu	Ala	Ser		
			645						650					655			
gtg	ctg	ctg	ctc	aca	ctg	gcg	gcc	gtg	cag	tgc	agc	atc	tct	gtg	acc	2016	
Val	Leu	Leu	Leu	Thr	Leu	Ala	Ala	Val	Gln	Cys	Ser	Ile	Ser	Val	Thr		
			660					665						670			
tgc	gtc	cga	gcc	tac	ggg	aag	gcg	ccg	tgc	cct	ggc	agc	gtc	cgc	gca	2064	
Cys	Val	Arg	Ala	Tyr	Gly	Lys	Ala	Pro	Ser	Pro	Gly	Ser	Val	Arg	Ala		
		675					680					685					
ggc	gca	ctg	gga	tgc	ctg	gcg	ctg	gcc	ggg	ctg	gcc	gca	gca	ctg	ccg	2112	
Gly	Ala	Leu	Gly	Cys	Leu	Ala	Leu	Ala	Gly	Leu	Ala	Ala	Ala	Leu	Pro		
	690					695					700						
ctg	gcc	tgc	gtg	gga	gag	tat	ggc	gcc	tcc	cca	ctc	tgc	ctg	ccc	tac	2160	
Leu	Ala	Ser	Val	Gly	Glu	Tyr	Gly	Ala	Ser	Pro	Leu	Cys	Leu	Pro	Tyr		

705	710	715	720	
gcc cca ccc gag ggc cgg ccg gcc gcc ctg ggc ttc gct gta gcc ctg				2208
Ala Pro Pro Glu Gly Arg Pro Ala Ala Leu Gly Phe Ala Val Ala Leu				
	725	730	735	
gtg atg atg aac tcg ctc tgc ttc ctg gtg gtg gcc ggc gcc tac atc				2256
Val Met Met Asn Ser Leu Cys Phe Leu Val Val Ala Gly Ala Tyr Ile				
	740	745	750	
aag ctc tac tgt gac ctg cca cgg ggt gac ttt gag gcc gtg tgg gac				2304
Lys Leu Tyr Cys Asp Leu Pro Arg Gly Asp Phe Glu Ala Val Trp Asp				
	755	760	765	
tgc gcc atg gtg cgc cac gtg gcc tgg ctc atc ttt gca gat ggc ctc				2352
Cys Ala Met Val Arg His Val Ala Trp Leu Ile Phe Ala Asp Gly Leu				
	770	775	780	
ctc tac tgc ccc gtg gcc ttc ctc agc ttt gcc tcc atg ctg ggc ctc				2400
Leu Tyr Cys Pro Val Ala Phe Leu Ser Phe Ala Ser Met Leu Gly Leu				
	785	790	800	
ttc cct gtc acc ccc gag gct gtc aag tca gtc ctt ctg gtg gtg ctg				2448
Phe Pro Val Thr Pro Glu Ala Val Lys Ser Val Leu Leu Val Val Leu				
	805	810	815	
cct ctg cct gcc tgc ctc aac cca ctg ctc tac ctg ctc ttc aac cct				2496
Pro Leu Pro Ala Cys Leu Asn Pro Leu Leu Tyr Leu Leu Phe Asn Pro				
	820	825	830	
cac ttc cgg gat gac ctt cgg cgg ctc tgg cca agc cct cgg tcc cca				2544
His Phe Arg Asp Asp Leu Arg Arg Leu Trp Pro Ser Pro Arg Ser Pro				
	835	840	845	
ggg ccc cta gcc tac gct gca gcc ggt gag ctg gag aag agc tcc tgc				2592
Gly Pro Leu Ala Tyr Ala Ala Ala Gly Glu Leu Glu Lys Ser Ser Cys				
	850	855	860	
gac tcc acc caa gcg ctg gtg gct ttc tca gat gtg gat ctt att ctg				2640
Asp Ser Thr Gln Ala Leu Val Ala Phe Ser Asp Val Asp Leu Ile Leu				
	865	870	875	880
gaa gct tct gag gct ggg cag cct cct ggg cta gag acc tat ggc ttc				2688
Glu Ala Ser Glu Ala Gly Gln Pro Pro Gly Leu Glu Thr Tyr Gly Phe				
	885	890	895	
cct tca gtg acc ctc atc tcc cga cat cag ccg ggg gcc acc agg ctg				2736
Pro Ser Val Thr Leu Ile Ser Arg His Gln Pro Gly Ala Thr Arg Leu				
	900	905	910	
gag gga aac cat ttt ata gag tct gat gga acc aag ttt ggg aac cca				2784
Glu Gly Asn His Phe Ile Glu Ser Asp Gly Thr Lys Phe Gly Asn Pro				
	915	920	925	
caa cct ccc atg aag gga gaa ctg ctg ctg aag gca gag gga gcc act				2832
Gln Pro Pro Met Lys Gly Glu Leu Leu Leu Lys Ala Glu Gly Ala Thr				
	930	935	940	

2025 RELEASE UNDER E.O. 14176

ttg gca ggc tgt ggc tct tcc gtg ggt gga gcc ctc tgg ccc tct ggc 2880
 Leu Ala Gly Cys Gly Ser Ser Val Gly Gly Ala Leu Trp Pro Ser Gly
 945 950 955 960

tct ctc ttt gcc tct cac ttg 2901
 Ser Leu Phe Ala Ser His Leu
 965

<210> 4
 <211> 2486
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (2) .. (1900)

<220>
 <221> misc_feature
 <222> (172)
 <223> n = any nucleotide

<400> 4
 t aat acg act cac tat agg gaa agc tgg tac gcc tgc agg tac cgg tcc 49
 Asn Thr Thr His Tyr Arg Glu Ser Trp Tyr Ala Cys Arg Tyr Arg Ser
 1 5 10 15

gga att ccc ggg tcg acc cac gcg tcc gtg gag cgg agc cag ggt ctg 97
 Gly Ile Pro Gly Ser Thr His Ala Ser Val Glu Arg Ser Gln Gly Leu
 20 25 30

agc ctg ccg gct cat cca gcc tct ctt gct gcc cta gcg gcc tcc aac 145
 Ser Leu Pro Ala His Pro Ala Ser Leu Ala Ala Leu Ala Ala Ser Asn
 35 40 45

aca acc gca tct ggg aaa ttg gag ctn gac acc ttc agc cag ctg agc 193
 Thr Thr Ala Ser Gly Lys Leu Glu Xaa Asp Thr Phe Ser Gln Leu Ser
 50 55 60

tcc ctg caa gcc ctg gat ctt agc tgg aac gcc atc cgg tcc atc cac 241
 Ser Leu Gln Ala Leu Asp Leu Ser Trp Asn Ala Ile Arg Ser Ile His
 65 70 75 80

cct gag gcc ttc tcc acc ctg cac tcc ctg gtc aag ctg gac ctg aca 289
 Pro Glu Ala Phe Ser Thr Leu His Ser Leu Val Lys Leu Asp Leu Thr
 85 90 95

gac aac cag ctg acc aca ctg ccc ctg gct gga ctt ggg ggc ttg atg 337
 Asp Asn Gln Leu Thr Thr Leu Pro Leu Ala Gly Leu Gly Gly Leu Met
 100 105 110

cat ctg aag ctc aaa ggg aac ctt gct ctc tcc cag gcc ttc tcc aag 385
 His Leu Lys Leu Lys Gly Asn Leu Ala Leu Ser Gln Ala Phe Ser Lys
 115 120 125

gac agt ttc cca aaa ctg agg atc ctg gag gtg cct tat gcc tac cag	433
Asp Ser Phe Pro Lys Leu Arg Ile Leu Glu Val Pro Tyr Ala Tyr Gln	
130 135 140	
tgc tgt ccc tat ggg atg tgt gcc agc ttc ttc aag gcc tct ggg cag	481
Cys Cys Pro Tyr Gly Met Cys Ala Ser Phe Phe Lys Ala Ser Gly Gln	
145 150 155 160	
tgg gag gct gaa gac ctt cac ctt gat gat gag gag tct tca aaa agg	529
Trp Glu Ala Glu Asp Leu His Leu Asp Asp Glu Glu Ser Ser Lys Arg	
165 170 175	
ccc ctg ggc ctc ctt gcc aga caa gca gag aac cac tat gac cag gac	577
Pro Leu Gly Leu Leu Ala Arg Gln Ala Glu Asn His Tyr Asp Gln Asp	
180 185 190	
ctg gat gag ctc cag ctg gag atg gag gac tca aag cca cac ccc agt	625
Leu Asp Glu Leu Gln Leu Glu Met Glu Asp Ser Lys Pro His Pro Ser	
195 200 205	
gtc cag tgt agc cct act cca ggc ccc ttc aag ccc tgt gag tac ctc	673
Val Gln Cys Ser Pro Thr Pro Gly Pro Phe Lys Pro Cys Glu Tyr Leu	
210 215 220	
ttt gaa agc tgg ggc atc cgc ctg gcc gtg tgg gcc atc gtg ttg ctc	721
Phe Glu Ser Trp Gly Ile Arg Leu Ala Val Trp Ala Ile Val Leu Leu	
225 230 235 240	
tcc gtg ctc tgc aat gga ctg gtg ctg ctg acc gtg ttc gct ggc ggg	769
Ser Val Leu Cys Asn Gly Leu Val Leu Thr Val Phe Ala Gly Gly	
245 250 255	
cct gcc ccc ctg ccc ccg gtc aag ttt gtg gta ggt gcg att gca ggc	817
Pro Ala Pro Leu Pro Pro Val Lys Phe Val Val Gly Ala Ile Ala Gly	
260 265 270	
gcc aac acc ttg act ggc att tcc tgt ggc ctt cta gcc tca gtc gat	865
Ala Asn Thr Leu Thr Gly Ile Ser Cys Gly Leu Leu Ala Ser Val Asp	
275 280 285	
gcc ctg acc ttt ggt cag ttc tct gag tac gga gcc cgc tgg gag acg	913
Ala Leu Thr Phe Gly Gln Phe Ser Glu Tyr Gly Ala Arg Trp Glu Thr	
290 295 300	
ggg cta ggc tgc cgg gcc act ggc ttc ctg gca gta ctt ggg tcg gag	961
Gly Leu Gly Cys Arg Ala Thr Gly Phe Leu Ala Val Leu Gly Ser Glu	
305 310 315 320	
gca tcg gtg ctg ctg ctc act ctg gcc gca gtg cag tgc agc gtc tcc	1009
Ala Ser Val Leu Leu Leu Thr Leu Ala Ala Val Gln Cys Ser Val Ser	
325 330 335	
gtc tcc tgt gtc cgg gcc tat ggg aag tcc ccc tcc ctg ggc agc gtt	1057
Val Ser Cys Val Arg Ala Tyr Gly Lys Ser Pro Ser Leu Gly Ser Val	
340 345 350	
cga gca ggg gtc cta ggc tgc ctg gca ctg gca ggg ctg gcc gcc gca	1105

Arg Ala Gly Val Leu Gly Cys Leu Ala Leu Ala Gly Leu Ala Ala Ala
 355 360 365

ctg ccc ctg gcc tca gtg gga gaa tac ggg gcc tcc cca ctc tgc ctg 1153
 Leu Pro Leu Ala Ser Val Gly Glu Tyr Gly Ala Ser Pro Leu Cys Leu
 370 375 380

ccc tac gcg cca cct gag ggt cag cca gca gcc ctg ggc ttc acc gtg 1201
 Pro Tyr Ala Pro Pro Glu Gly Gln Pro Ala Ala Leu Gly Phe Thr Val
 385 390 395 400

gcc ctg gtg atg atg aac tcc ttc tgt ttc ctg gtc gtg gcc ggt gcc 1249
 Ala Leu Val Met Met Asn Ser Phe Cys Phe Leu Val Val Ala Gly Ala
 405 410 415

tac atc aaa ctg tac tgt gac ctg ccg cgg ggc gac ttt gag gcc gtg 1297
 Tyr Ile Lys Leu Tyr Cys Asp Leu Pro Arg Gly Asp Phe Glu Ala Val
 420 425 430

tgg gac tgc gcc atg gtg agg cac gtg gcc tgg ctc atc ttc gca gac 1345
 Trp Asp Cys Ala Met Val Arg His Val Ala Trp Leu Ile Phe Ala Asp
 435 440 445

ggg ctc ctc tac tgt ccc gtg gcc ttc ctc agc ttc gcc tcc atg ctg 1393
 Gly Leu Leu Tyr Cys Pro Val Ala Phe Leu Ser Phe Ala Ser Met Leu
 450 455 460

ggc ctc ttc cct gtc acg ccc gag gcc gtc aag tct gtc ctg ctg gtg 1441
 Gly Leu Phe Pro Val Thr Pro Glu Ala Val Lys Ser Val Leu Leu Val
 465 470 475 480

gtg ctg ccc ctg cct gcc tgc ctc aac cca ctg ctg tac ctg ctc ttc 1489
 Val Leu Pro Leu Pro Ala Cys Leu Asn Pro Leu Leu Tyr Leu Leu Phe
 485 490 495

aac ccc cac ttc cgg gat gac ctt cgg cgg ctt cgg ccc cgc gca ggg 1537
 Asn Pro His Phe Arg Asp Asp Leu Arg Arg Leu Arg Pro Arg Ala Gly
 500 505 510

gac tca ggg ccc cta gcc tat gct gcg gcc ggg gag ctg gag aag agc 1585
 Asp Ser Gly Pro Leu Ala Tyr Ala Ala Ala Gly Glu Leu Glu Lys Ser
 515 520 525

tcc tgt gat tct acc cag gcc ctg gta gcc ttc tct gat gtg gat ctc 1633
 Ser Cys Asp Ser Thr Gln Ala Leu Val Ala Phe Ser Asp Val Asp Leu
 530 535 540

att ctg gaa gct tct gaa gct ggg cgg ccc cct ggg ctg gag acc tat 1681
 Ile Leu Glu Ala Ser Glu Ala Gly Arg Pro Pro Gly Leu Glu Thr Tyr
 545 550 555 560

ggc ttc ccc tca gtg acc ctc atc tcc tgt cag cag cca ggg gcc ccc 1729
 Gly Phe Pro Ser Val Thr Leu Ile Ser Cys Gln Gln Pro Gly Ala Pro
 565 570 575

agg ctg gag ggc agc cat tgt gta gag cca gag ggg aac cac ttt ggg 1777
 Arg Leu Glu Gly Ser His Cys Val Glu Pro Glu Gly Asn His Phe Gly

580 585 590

aac ccc caa ccc tcc atg gat gga gaa ctg ctg ctg agg gca gag gga 1825
 Asn Pro Gln Pro Ser Met Asp Gly Glu Leu Leu Leu Arg Ala Glu Gly
 595 600 605

tct acg cca gca ggt gga ggc ttg tca ggg ggt ggc ggc ttt cag ccc 1873
 Ser Thr Pro Ala Gly Gly Gly Leu Ser Gly Gly Gly Gly Phe Gln Pro
 610 615 620

tct ggc ttg gcc ttt gct tca cac gtg taaatatccc tccccattct 1920
 Ser Gly Leu Ala Phe Ala Ser His Val
 625 630

tctcttcccc tctcttccct ttctctctct cccctcggtg aatgatggct gcttctaaaa 1980

caaatacaac caaaactcag cagtgtgatc tatagcagga tggcccagta cctggctcca 2040

ctgatcacct ctctctgtg accatcacca acgggtgcct cttggcctgg ctttcccttg 2100

gccttctca gcttcacctt gatactgggc ctcttcttg tcatgtctga agctgtggac 2160

cagagacctg gacttttgtc tgcttaaggg aatgagggga agtaaagaca gtgaaggggt 2220

ggaggggtga tcagggcaca gtggacaggg agacctcaca gagaaaggcc tggaaggtga 2280

tttcccggtg gactcatgga taggatacaa aatgtgttcc atgtaccatt aatcttgaca 2340

tatgccatgc ataaagactt cctattaaaa taagctttgg aagagattaa aaaaaaaaaa 2400

aaagggcggc cgctctagag gatccaagct tacgtacgcg tgcatgcgac gtcatagctc 2460

ttctatagtg tcacctaaat tcaatt 2486

<210> 5
 <211> 633
 <212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT
 <222> (57)
 <223> Xaa = any amino acid

<400> 5
 Asn Thr Thr His Tyr Arg Glu Ser Trp Tyr Ala Cys Arg Tyr Arg Ser
 1 5 10 15

Gly Ile Pro Gly Ser Thr His Ala Ser Val Glu Arg Ser Gln Gly Leu
 20 25 30

Ser Leu Pro Ala His Pro Ala Ser Leu Ala Ala Leu Ala Ala Ser Asn
 35 40 45

Thr Thr Ala Ser Gly Lys Leu Glu Xaa Asp Thr Phe Ser Gln Leu Ser
 50 55 60

Ser Leu Gln Ala Leu Asp Leu Ser Trp Asn Ala Ile Arg Ser Ile His
 65 70 75 80
 Pro Glu Ala Phe Ser Thr Leu His Ser Leu Val Lys Leu Asp Leu Thr
 85 90 95
 Asp Asn Gln Leu Thr Thr Leu Pro Leu Ala Gly Leu Gly Gly Leu Met
 100 105 110
 His Leu Lys Leu Lys Gly Asn Leu Ala Leu Ser Gln Ala Phe Ser Lys
 115 120 125
 Asp Ser Phe Pro Lys Leu Arg Ile Leu Glu Val Pro Tyr Ala Tyr Gln
 130 135 140
 Cys Cys Pro Tyr Gly Met Cys Ala Ser Phe Phe Lys Ala Ser Gly Gln
 145 150 155 160
 Trp Glu Ala Glu Asp Leu His Leu Asp Asp Glu Glu Ser Ser Lys Arg
 165 170 175
 Pro Leu Gly Leu Leu Ala Arg Gln Ala Glu Asn His Tyr Asp Gln Asp
 180 185 190
 Leu Asp Glu Leu Gln Leu Glu Met Glu Asp Ser Lys Pro His Pro Ser
 195 200 205
 Val Gln Cys Ser Pro Thr Pro Gly Pro Phe Lys Pro Cys Glu Tyr Leu
 210 215 220
 Phe Glu Ser Trp Gly Ile Arg Leu Ala Val Trp Ala Ile Val Leu Leu
 225 230 235 240
 Ser Val Leu Cys Asn Gly Leu Val Leu Leu Thr Val Phe Ala Gly Gly
 245 250 255
 Pro Ala Pro Leu Pro Pro Val Lys Phe Val Val Gly Ala Ile Ala Gly
 260 265 270
 Ala Asn Thr Leu Thr Gly Ile Ser Cys Gly Leu Leu Ala Ser Val Asp
 275 280 285
 Ala Leu Thr Phe Gly Gln Phe Ser Glu Tyr Gly Ala Arg Trp Glu Thr
 290 295 300
 Gly Leu Gly Cys Arg Ala Thr Gly Phe Leu Ala Val Leu Gly Ser Glu
 305 310 315 320
 Ala Ser Val Leu Leu Leu Thr Leu Ala Ala Val Gln Cys Ser Val Ser
 325 330 335
 Val Ser Cys Val Arg Ala Tyr Gly Lys Ser Pro Ser Leu Gly Ser Val
 340 345 350
 Arg Ala Gly Val Leu Gly Cys Leu Ala Leu Ala Gly Leu Ala Ala Ala
 355 360 365

Leu Pro Leu Ala Ser Val Gly Glu Tyr Gly Ala Ser Pro Leu Cys Leu
 370 375 380
 Pro Tyr Ala Pro Pro Glu Gly Gln Pro Ala Ala Leu Gly Phe Thr Val
 385 390 395 400
 Ala Leu Val Met Met Asn Ser Phe Cys Phe Leu Val Val Ala Gly Ala
 405 410 415
 Tyr Ile Lys Leu Tyr Cys Asp Leu Pro Arg Gly Asp Phe Glu Ala Val
 420 425 430
 Trp Asp Cys Ala Met Val Arg His Val Ala Trp Leu Ile Phe Ala Asp
 435 440 445
 Gly Leu Leu Tyr Cys Pro Val Ala Phe Leu Ser Phe Ala Ser Met Leu
 450 455 460
 Gly Leu Phe Pro Val Thr Pro Glu Ala Val Lys Ser Val Leu Leu Val
 465 470 475 480
 Val Leu Pro Leu Pro Ala Cys Leu Asn Pro Leu Leu Tyr Leu Leu Phe
 485 490 495
 Asn Pro His Phe Arg Asp Asp Leu Arg Arg Leu Arg Pro Arg Ala Gly
 500 505 510
 Asp Ser Gly Pro Leu Ala Tyr Ala Ala Ala Gly Glu Leu Glu Lys Ser
 515 520 525
 Ser Cys Asp Ser Thr Gln Ala Leu Val Ala Phe Ser Asp Val Asp Leu
 530 535 540
 Ile Leu Glu Ala Ser Glu Ala Gly Arg Pro Pro Gly Leu Glu Thr Tyr
 545 550 555 560
 Gly Phe Pro Ser Val Thr Leu Ile Ser Cys Gln Gln Pro Gly Ala Pro
 565 570 575
 Arg Leu Glu Gly Ser His Cys Val Glu Pro Glu Gly Asn His Phe Gly
 580 585 590
 Asn Pro Gln Pro Ser Met Asp Gly Glu Leu Leu Leu Arg Ala Glu Gly
 595 600 605
 Ser Thr Pro Ala Gly Gly Gly Leu Ser Gly Gly Gly Gly Phe Gln Pro
 610 615 620
 Ser Gly Leu Ala Phe Ala Ser His Val
 625 630

<210> 6

<211> 1899

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)..(1899)

<220>

<221> misc_feature

<222> (171)

<223> n = any nucleotide

<400> 6

aat acg act cac tat agg gaa agc tgg tac gcc tgc agg tac cgg tcc	48
Asn Thr Thr His Tyr Arg Glu Ser Trp Tyr Ala Cys Arg Tyr Arg Ser	
1 5 10 15	
gga att ccc ggg tgc acc cac gcg tcc gtg gag cgg agc cag ggt ctg	96
Gly Ile Pro Gly Ser Thr His Ala Ser Val Glu Arg Ser Gln Gly Leu	
20 25 30	
agc ctg ccg gct cat cca gcc tct ctt gct gcc cta gcg gcc tcc aac	144
Ser Leu Pro Ala His Pro Ala Ser Leu Ala Ala Leu Ala Ala Ser Asn	
35 40 45	
aca acc gca tct ggg aaa ttg gag ctn gac acc ttc agc cag ctg agc	192
Thr Thr Ala Ser Gly Lys Leu Glu Xaa Asp Thr Phe Ser Gln Leu Ser	
50 55 60	
tcc ctg caa gcc ctg gat ctt agc tgg aac gcc atc cgg tcc atc cac	240
Ser Leu Gln Ala Leu Asp Leu Ser Trp Asn Ala Ile Arg Ser Ile His	
65 70 75 80	
cct gag gcc ttc tcc acc ctg cac tcc ctg gtc aag ctg gac ctg aca	288
Pro Glu Ala Phe Ser Thr Leu His Ser Leu Val Lys Leu Asp Leu Thr	
85 90 95	
gac aac cag ctg acc aca ctg ccc ctg gct gga ctt ggg ggc ttg atg	336
Asp Asn Gln Leu Thr Thr Leu Pro Leu Ala Gly Leu Gly Gly Leu Met	
100 105 110	
cat ctg aag ctc aaa ggg aac ctt gct ctc tcc cag gcc ttc tcc aag	384
His Leu Lys Leu Lys Gly Asn Leu Ala Leu Ser Gln Ala Phe Ser Lys	
115 120 125	
gac agt ttc cca aaa ctg agg atc ctg gag gtg cct tat gcc tac cag	432
Asp Ser Phe Pro Lys Leu Arg Ile Leu Glu Val Pro Tyr Ala Tyr Gln	
130 135 140	
tgc tgt ccc tat ggg atg tgt gcc agc ttc ttc aag gcc tct ggg cag	480
Cys Cys Pro Tyr Gly Met Cys Ala Ser Phe Phe Lys Ala Ser Gly Gln	
145 150 155 160	
tgg gag gct gaa gac ctt cac ctt gat gat gag gag tct tca aaa agg	528
Trp Glu Ala Glu Asp Leu His Leu Asp Asp Glu Glu Ser Ser Lys Arg	
165 170 175	
ccc ctg ggc ctc ctt gcc aga caa gca gag aac cac tat gac cag gac	576
Pro Leu Gly Leu Leu Ala Arg Gln Ala Glu Asn His Tyr Asp Gln Asp	

180	185	190	
ctg gat gag ctc cag ctg gag atg gag gac tca aag cca cac ccc agt Leu Asp Glu Leu Gln Leu Glu Met Glu Asp Ser Lys Pro His Pro Ser 195 200 205			624
gtc cag tgt agc cct act cca ggc ccc ttc aag ccc tgt gag tac ctc Val Gln Cys Ser Pro Thr Pro Gly Pro Phe Lys Pro Cys Glu Tyr Leu 210 215 220			672
ttt gaa agc tgg ggc atc cgc ctg gcc gtg tgg gcc atc gtg ttg ctc Phe Glu Ser Trp Gly Ile Arg Leu Ala Val Trp Ala Ile Val Leu Leu 225 230 235 240			720
tcc gtg ctc tgc aat gga ctg gtg ctg ctg acc gtg ttc gct ggc ggg Ser Val Leu Cys Asn Gly Leu Val Leu Leu Thr Val Phe Ala Gly Gly 245 250 255			768
cct gcc ccc ctg ccc ccg gtc aag ttt gtg gta ggt gcg att gca ggc Pro Ala Pro Leu Pro Pro Val Lys Phe Val Val Gly Ala Ile Ala Gly 260 265 270			816
gcc aac acc ttg act ggc att tcc tgt ggc ctt cta gcc tca gtc gat Ala Asn Thr Leu Thr Gly Ile Ser Cys Gly Leu Leu Ala Ser Val Asp 275 280 285			864
gcc ctg acc ttt ggt cag ttc tct gag tac gga gcc cgc tgg gag acg Ala Leu Thr Phe Gly Gln Phe Ser Glu Tyr Gly Ala Arg Trp Glu Thr 290 295 300			912
ggg cta ggc tgc cgg gcc act ggc ttc ctg gca gta ctt ggg tcg gag Gly Leu Gly Cys Arg Ala Thr Gly Phe Leu Ala Val Leu Gly Ser Glu 305 310 315 320			960
gca tcg gtg ctg ctg ctc act ctg gcc gca gtg cag tgc agc gtc tcc Ala Ser Val Leu Leu Leu Thr Leu Ala Ala Val Gln Cys Ser Val Ser 325 330 335			1008
gtc tcc tgt gtc cgg gcc tat ggg aag tcc ccc tcc ctg ggc agc gtt Val Ser Cys Val Arg Ala Tyr Gly Lys Ser Pro Ser Leu Gly Ser Val 340 345 350			1056
cga gca ggg gtc cta ggc tgc ctg gca ctg gca ggg ctg gcc gcc gca Arg Ala Gly Val Leu Gly Cys Leu Ala Leu Ala Gly Leu Ala Ala Ala 355 360 365			1104
ctg ccc ctg gcc tca gtg gga gaa tac ggg gcc tcc cca ctc tgc ctg Leu Pro Leu Ala Ser Val Gly Glu Tyr Gly Ala Ser Pro Leu Cys Leu 370 375 380			1152
ccc tac gcg cca cct gag ggt cag cca gca gcc ctg ggc ttc acc gtg Pro Tyr Ala Pro Pro Glu Gly Gln Pro Ala Ala Leu Gly Phe Thr Val 385 390 395 400			1200
gcc ctg gtg atg atg aac tcc ttc tgt ttc ctg gtc gtg gcc ggt gcc Ala Leu Val Met Met Asn Ser Phe Cys Phe Leu Val Val Ala Gly Ala 405 410 415			1248

tac atc aaa ctg tac tgt gac ctg ccg cgg ggc gac ttt gag gcc gtg 1296
 Tyr Ile Lys Leu Tyr Cys Asp Leu Pro Arg Gly Asp Phe Glu Ala Val
 420 425 430

tgg gac tgc gcc atg gtg agg cac gtg gcc tgg ctc atc ttc gca gac 1344
 Trp Asp Cys Ala Met Val Arg His Val Ala Trp Leu Ile Phe Ala Asp
 435 440 445

ggg ctc ctc tac tgt ccc gtg gcc ttc ctc agc ttc gcc tcc atg ctg 1392
 Gly Leu Leu Tyr Cys Pro Val Ala Phe Leu Ser Phe Ala Ser Met Leu
 450 455 460

ggc ctc ttc cct gtc acg ccc gag gcc gtc aag tct gtc ctg ctg gtg 1440
 Gly Leu Phe Pro Val Thr Pro Glu Ala Val Lys Ser Val Leu Leu Val
 465 470 475 480

gtg ctg ccc ctg cct gcc tgc ctc aac cca ctg ctg tac ctg ctc ttc 1488
 Val Leu Pro Leu Pro Ala Cys Leu Asn Pro Leu Leu Tyr Leu Leu Phe
 485 490 495

aac ccc cac ttc cgg gat gac ctt cgg cgg ctt cgg ccc cgc gca ggg 1536
 Asn Pro His Phe Arg Asp Asp Leu Arg Arg Leu Arg Pro Arg Ala Gly
 500 505 510

gac tca ggg ccc cta gcc tat gct gcg gcc ggg gag ctg gag aag agc 1584
 Asp Ser Gly Pro Leu Ala Tyr Ala Ala Ala Gly Glu Leu Glu Lys Ser
 515 520 525

tcc tgt gat tct acc cag gcc ctg gta gcc ttc tct gat gtg gat ctc 1632
 Ser Cys Asp Ser Thr Gln Ala Leu Val Ala Phe Ser Asp Val Asp Leu
 530 535 540

att ctg gaa gct tct gaa gct ggg cgg ccc cct ggg ctg gag acc tat 1680
 Ile Leu Glu Ala Ser Glu Ala Gly Arg Pro Pro Gly Leu Glu Thr Tyr
 545 550 555 560

ggc ttc ccc tca gtg acc ctc atc tcc tgt cag cag cca ggg gcc ccc 1728
 Gly Phe Pro Ser Val Thr Leu Ile Ser Cys Gln Gln Pro Gly Ala Pro
 565 570 575

agg ctg gag ggc agc cat tgt gta gag cca gag ggg aac cac ttt ggg 1776
 Arg Leu Glu Gly Ser His Cys Val Glu Pro Glu Gly Asn His Phe Gly
 580 585 590

aac ccc caa ccc tcc atg gat gga gaa ctg ctg ctg agg gca gag gga 1824
 Asn Pro Gln Pro Ser Met Asp Gly Glu Leu Leu Leu Arg Ala Glu Gly
 595 600 605

tct acg cca gca ggt gga ggc ttg tca ggg ggt ggc ggc ttt cag ccc 1872
 Ser Thr Pro Ala Gly Gly Gly Leu Ser Gly Gly Gly Gly Phe Gln Pro
 610 615 620

tct ggc ttg gcc ttt gct tca cac gtg 1899
 Ser Gly Leu Ala Phe Ala Ser His Val
 625 630

<210> 7
 <211> 2711
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1) .. (2208)

<400> 7
 ggg ctg cac aat ctg gag aca cta gac ctg aat tat aac aag ctg cag 48
 Gly Leu His Asn Leu Glu Thr Leu Asp Leu Asn Tyr Asn Lys Leu Gln
 1 5 10 15
 gag ttc cct gtg gcc atc cgg acc ctg ggc aga ctg cag gaa ctg ggg 96
 Glu Phe Pro Val Ala Ile Arg Thr Leu Gly Arg Leu Gln Glu Leu Gly
 20 25 30
 ttc cat aac aac aac atc aag gcc atc cca gaa aag gcc ttc atg ggg 144
 Phe His Asn Asn Asn Ile Lys Ala Ile Pro Glu Lys Ala Phe Met Gly
 35 40 45
 aac cct ctg cta cag acg ata cac ttt tat gat aac cca atc cag ttt 192
 Asn Pro Leu Leu Gln Thr Ile His Phe Tyr Asp Asn Pro Ile Gln Phe
 50 55 60
 gtg gga aga tcg gca ttc cag tac ctg cct aaa ctc cac aca cta tct 240
 Val Gly Arg Ser Ala Phe Gln Tyr Leu Pro Lys Leu His Thr Leu Ser
 65 70 75 80
 ctg aat ggt gcc atg gac atc cag gag ttt cca gat ctc aaa ggc acc 288
 Leu Asn Gly Ala Met Asp Ile Gln Glu Phe Pro Asp Leu Lys Gly Thr
 85 90 95
 acc agc ctg gag atc ctg acc ctg acc cgc gca ggc atc cgg ctg ctc 336
 Thr Ser Leu Glu Ile Leu Thr Leu Thr Arg Ala Gly Ile Arg Leu Leu
 100 105 110
 cca tcg ggg atg tgc caa cag ctg ccc agg ctc cga gtc ctg gaa ctg 384
 Pro Ser Gly Met Cys Gln Gln Leu Pro Arg Leu Arg Val Leu Glu Leu
 115 120 125
 tct cac aat caa att gag gag ctg ccc agc ctg cac agg tgt cag aaa 432
 Ser His Asn Gln Ile Glu Glu Leu Pro Ser Leu His Arg Cys Gln Lys
 130 135 140
 ttg gag gaa atc ggc ctc caa cac aac cgc atc tgg gaa att gga gct 480
 Leu Glu Glu Ile Gly Leu Gln His Asn Arg Ile Trp Glu Ile Gly Ala
 145 150 155 160
 gac acc ttc agc cag ctg agc tcc ctg caa gcc ctg gat ctt agc tgg 528
 Asp Thr Phe Ser Gln Leu Ser Ser Leu Gln Ala Leu Asp Leu Ser Trp
 165 170 175
 aac gcc atc cgg tcc atc cac cct gag gcc ttc tcc acc ctg cac tcc 576
 Asn Ala Ile Arg Ser Ile His Pro Glu Ala Phe Ser Thr Leu His Ser

180	185	190	
ctg gtc aag ctg gac ctg aca gac aac cag ctg acc aca ctg ccc ctg Leu Val Lys Leu Asp Leu Thr Asp Asn Gln Leu Thr Thr Leu Pro Leu 195 200 205			624
gct gga ctt ggg ggc ttg atg cat ctg aag ctc aaa ggg aac ctt gct Ala Gly Leu Gly Gly Leu Met His Leu Lys Leu Lys Gly Asn Leu Ala 210 215 220			672
ctc tcc cag gcc ttc tcc aag gac agt ttc cca aaa ctg agg atc ctg Leu Ser Gln Ala Phe Ser Lys Asp Ser Phe Pro Lys Leu Arg Ile Leu 225 230 235 240			720
gag gtg cct tat gcc tac cag tgc tgt ccc tat ggg atg tgt gcc agc Glu Val Pro Tyr Ala Tyr Gln Cys Cys Pro Tyr Gly Met Cys Ala Ser 245 250 255			768
ttc ttc aag gcc tct ggg cag tgg gag gct gaa gac ctt cac ctt gat Phe Phe Lys Ala Ser Gly Gln Trp Glu Ala Glu Asp Leu His Leu Asp 260 265 270			816
gat gag gag tct tca aaa agg ccc ctg ggc ctc ctt gcc aga caa gca Asp Glu Glu Ser Ser Lys Arg Pro Leu Gly Leu Leu Ala Arg Gln Ala 275 280 285			864
gag aac cac tat gac cag gac ctg gat gag ctc cag ctg gag atg gag Glu Asn His Tyr Asp Gln Asp Leu Asp Glu Leu Gln Leu Glu Met Glu 290 295 300			912
gac tca aag cca cac ccc agt gtc cag tgt agc cct act cca ggc ccc Asp Ser Lys Pro His Pro Ser Val Gln Cys Ser Pro Thr Pro Gly Pro 305 310 315 320			960
ttc aag ccc tgt gag tac ctc ttt gaa agc tgg ggc atc cgc ctg gcc Phe Lys Pro Cys Glu Tyr Leu Phe Glu Ser Trp Gly Ile Arg Leu Ala 325 330 335			1008
gtg tgg gcc atc gtg ttg ctc tcc gtg ctc tgc aat gga ctg gtg ctg Val Trp Ala Ile Val Leu Leu Ser Val Leu Cys Asn Gly Leu Val Leu 340 345 350			1056
ctg acc gtg ttc gct ggc ggg cct gcc ccc ctg ccc ccg gtc aag ttt Leu Thr Val Phe Ala Gly Gly Pro Ala Pro Leu Pro Pro Val Lys Phe 355 360 365			1104
gtg gta ggt gcg att gca ggc gcc aac acc ttg act ggc att tcc tgt Val Val Gly Ala Ile Ala Gly Ala Asn Thr Leu Thr Gly Ile Ser Cys 370 375 380			1152
ggc ctt cta gcc tca gtc gat gcc ctg acc ttt ggt cag ttc tct gag Gly Leu Leu Ala Ser Val Asp Ala Leu Thr Phe Gly Gln Phe Ser Glu 385 390 395 400			1200
tac gga gcc cgc tgg gag acg ggg cta ggc tgc cgg gcc act ggc ttc Tyr Gly Ala Arg Trp Glu Thr Gly Leu Gly Cys Arg Ala Thr Gly Phe 405 410 415			1248

ctg gca gta ctt ggg tgc gag gca tgc gtg ctg ctg ctc act ctg gcc	1296
Leu Ala Val Leu Gly Ser Glu Ala Ser Val Leu Leu Leu Thr Leu Ala	
420 425 430	
gca gtg cag tgc agc gtc tcc gtc tcc tgt gtc cgg gcc tat ggg aag	1344
Ala Val Gln Cys Ser Val Ser Val Ser Cys Val Arg Ala Tyr Gly Lys	
435 440 445	
tcc ccc tcc ctg ggc agc gtt cga gca ggg gtc cta ggc tgc ctg gca	1392
Ser Pro Ser Leu Gly Ser Val Arg Ala Gly Val Leu Gly Cys Leu Ala	
450 455 460	
ctg gca ggg ctg gcc gcc gca ctg ccc ctg gcc tca gtg gga gaa tac	1440
Leu Ala Gly Leu Ala Ala Leu Pro Leu Ala Ser Val Gly Glu Tyr	
465 470 475 480	
ggg gcc tcc cca ctc tgc ctg ccc tac gcg cca cct gag ggt cag cca	1488
Gly Ala Ser Pro Leu Cys Leu Pro Tyr Ala Pro Pro Glu Gly Gln Pro	
485 490 495	
gca gcc ctg ggc ttc acc gtg gcc ctg gtg atg atg aac tcc ttc tgt	1536
Ala Ala Leu Gly Phe Thr Val Ala Leu Val Met Met Asn Ser Phe Cys	
500 505 510	
ttc ctg gtc gtg gcc ggt gcc tac atc aaa ctg tac tgt gac ctg ccg	1584
Phe Leu Val Val Ala Gly Ala Tyr Ile Lys Leu Tyr Cys Asp Leu Pro	
515 520 525	
cgg ggc gac ttt gag gcc gtg tgg gac tgc gcc atg gtg agg cac gtg	1632
Arg Gly Asp Phe Glu Ala Val Trp Asp Cys Ala Met Val Arg His Val	
530 535 540	
gcc tgg ctc atc ttc gca gac ggg ctc ctc tac tgt ccc gtg gcc ttc	1680
Ala Trp Leu Ile Phe Ala Asp Gly Leu Leu Tyr Cys Pro Val Ala Phe	
545 550 555 560	
ctc agc ttc gcc tcc atg ctg ggc ctc ttc cct gtc acg ccc gag gcc	1728
Leu Ser Phe Ala Ser Met Leu Gly Leu Phe Pro Val Thr Pro Glu Ala	
565 570 575	
gtc aag tct gtc ctg ctg gtg gtg ctg ccc ctg cct gcc tgc ctc aac	1776
Val Lys Ser Val Leu Leu Val Val Leu Pro Leu Pro Ala Cys Leu Asn	
580 585 590	
cca ctg ctg tac ctg ctc ttc aac ccc cac ttc cgg gat gac ctt cgg	1824
Pro Leu Leu Tyr Leu Leu Phe Asn Pro His Phe Arg Asp Asp Leu Arg	
595 600 605	
cgg ctt cgg ccc cgc gca ggg gac tca ggg ccc cta gcc tat gct gcg	1872
Arg Leu Arg Pro Arg Ala Gly Asp Ser Gly Pro Leu Ala Tyr Ala Ala	
610 615 620	
gcc ggg gag ctg gag aag agc tcc tgt gat tct acc cag gcc ctg gta	1920
Ala Gly Glu Leu Glu Lys Ser Ser Cys Asp Ser Thr Gln Ala Leu Val	
625 630 635 640	

gcc ttc tct gat gtg gat ctc att ctg gaa gct tct gaa gct ggg cgg 1968
 Ala Phe Ser Asp Val Asp Leu Ile Leu Glu Ala Ser Glu Ala Gly Arg
 645 650 655

ccc cct ggg ctg gag acc tat ggc ttc ccc tca gtg acc ctc atc tcc 2016
 Pro Pro Gly Leu Glu Thr Tyr Gly Phe Pro Ser Val Thr Leu Ile Ser
 660 665 670

tgt cag cag cca ggg gcc ccc agg ctg gag ggc agc cat tgt gta gag 2064
 Cys Gln Gln Pro Gly Ala Pro Arg Leu Glu Gly Ser His Cys Val Glu
 675 680 685

cca gag ggg aac cac ttt ggg aac ccc caa ccc tcc atg gat gga gaa 2112
 Pro Glu Gly Asn His Phe Gly Asn Pro Gln Pro Ser Met Asp Gly Glu
 690 695 700

ctg ctg ctg agg gca gag gga tct acg cca gca ggt gga ggc ttg tca 2160
 Leu Leu Leu Arg Ala Glu Gly Ser Thr Pro Ala Gly Gly Gly Leu Ser
 705 710 715 720

ggg ggt ggc ggc ttt cag ccc tct ggc ttg gcc ttt gct tca cac gtg 2208
 Gly Gly Gly Gly Phe Gln Pro Ser Gly Leu Ala Phe Ala Ser His Val
 725 730 735

taaatatccc tccccattct tctcttcccc tctcttccct ttcctctctc cccctcggtg 2268

aatgatggct gcttctaaaa caaatacaac caaaactcag cagtgtgatc tatagcagga 2328

tggcccagta cctggctcca ctgatcacct ctctcctgtg accatcacca acgggtgcct 2388

cttggcctgg ctttcccttg gccttcctca gcttcacctt gatactgggc ctcttccttg 2448

tcatgtctga agctgtggac cagagacctg gacttttgtc tgcttaaggg aaatgagggg 2508

agtaaagaca gtgaaggggt ggaggggtga tcagggcaca gtggacaggg agacctcaca 2568

gagaaaggcc tggaagggtga tttcccgtgt gactcatgga taggatacaa aatgtgttcc 2628

atgtaccatt aatcttgaca tatgccatgc ataaagactt cctattaaaa taagctttgg 2688

aagagattaa aaaaaaaaaa aaa 2711

<210> 8

<211> 736

<212> PRT

<213> Homo sapiens

<400> 8

Gly Leu His Asn Leu Glu Thr Leu Asp Leu Asn Tyr Asn Lys Leu Gln
 1 5 10 15

Glu Phe Pro Val Ala Ile Arg Thr Leu Gly Arg Leu Gln Glu Leu Gly
 20 25 30

Phe His Asn Asn Asn Ile Lys Ala Ile Pro Glu Lys Ala Phe Met Gly
 35 40 45

Asn Pro Leu Leu Gln Thr Ile His Phe Tyr Asp Asn Pro Ile Gln Phe
 50 55 60
 Val Gly Arg Ser Ala Phe Gln Tyr Leu Pro Lys Leu His Thr Leu Ser
 65 70 75 80
 Leu Asn Gly Ala Met Asp Ile Gln Glu Phe Pro Asp Leu Lys Gly Thr
 85 90 95
 Thr Ser Leu Glu Ile Leu Thr Leu Thr Arg Ala Gly Ile Arg Leu Leu
 100 105 110
 Pro Ser Gly Met Cys Gln Gln Leu Pro Arg Leu Arg Val Leu Glu Leu
 115 120 125
 Ser His Asn Gln Ile Glu Glu Leu Pro Ser Leu His Arg Cys Gln Lys
 130 135 140
 Leu Glu Glu Ile Gly Leu Gln His Asn Arg Ile Trp Glu Ile Gly Ala
 145 150 155 160
 Asp Thr Phe Ser Gln Leu Ser Ser Leu Gln Ala Leu Asp Leu Ser Trp
 165 170 175
 Asn Ala Ile Arg Ser Ile His Pro Glu Ala Phe Ser Thr Leu His Ser
 180 185 190
 Leu Val Lys Leu Asp Leu Thr Asp Asn Gln Leu Thr Thr Leu Pro Leu
 195 200 205
 Ala Gly Leu Gly Gly Leu Met His Leu Lys Leu Lys Gly Asn Leu Ala
 210 215 220
 Leu Ser Gln Ala Phe Ser Lys Asp Ser Phe Pro Lys Leu Arg Ile Leu
 225 230 235 240
 Glu Val Pro Tyr Ala Tyr Gln Cys Cys Pro Tyr Gly Met Cys Ala Ser
 245 250 255
 Phe Phe Lys Ala Ser Gly Gln Trp Glu Ala Glu Asp Leu His Leu Asp
 260 265 270
 Asp Glu Glu Ser Ser Lys Arg Pro Leu Gly Leu Leu Ala Arg Gln Ala
 275 280 285
 Glu Asn His Tyr Asp Gln Asp Leu Asp Glu Leu Gln Leu Glu Met Glu
 290 295 300
 Asp Ser Lys Pro His Pro Ser Val Gln Cys Ser Pro Thr Pro Gly Pro
 305 310 315 320
 Phe Lys Pro Cys Glu Tyr Leu Phe Glu Ser Trp Gly Ile Arg Leu Ala
 325 330 335
 Val Trp Ala Ile Val Leu Leu Ser Val Leu Cys Asn Gly Leu Val Leu
 340 345 350

Leu Thr Val Phe Ala Gly Gly Pro Ala Pro Leu Pro Pro Val Lys Phe
 355 360 365
 Val Val Gly Ala Ile Ala Gly Ala Asn Thr Leu Thr Gly Ile Ser Cys
 370 375 380
 Gly Leu Leu Ala Ser Val Asp Ala Leu Thr Phe Gly Gln Phe Ser Glu
 385 390 395 400
 Tyr Gly Ala Arg Trp Glu Thr Gly Leu Gly Cys Arg Ala Thr Gly Phe
 405 410 415
 Leu Ala Val Leu Gly Ser Glu Ala Ser Val Leu Leu Leu Thr Leu Ala
 420 425 430
 Ala Val Gln Cys Ser Val Ser Val Ser Cys Val Arg Ala Tyr Gly Lys
 435 440 445
 Ser Pro Ser Leu Gly Ser Val Arg Ala Gly Val Leu Gly Cys Leu Ala
 450 455 460
 Leu Ala Gly Leu Ala Ala Ala Leu Pro Leu Ala Ser Val Gly Glu Tyr
 465 470 475 480
 Gly Ala Ser Pro Leu Cys Leu Pro Tyr Ala Pro Pro Glu Gly Gln Pro
 485 490 495
 Ala Ala Leu Gly Phe Thr Val Ala Leu Val Met Met Asn Ser Phe Cys
 500 505 510
 Phe Leu Val Val Ala Gly Ala Tyr Ile Lys Leu Tyr Cys Asp Leu Pro
 515 520 525
 Arg Gly Asp Phe Glu Ala Val Trp Asp Cys Ala Met Val Arg His Val
 530 535 540
 Ala Trp Leu Ile Phe Ala Asp Gly Leu Leu Tyr Cys Pro Val Ala Phe
 545 550 555 560
 Leu Ser Phe Ala Ser Met Leu Gly Leu Phe Pro Val Thr Pro Glu Ala
 565 570 575
 Val Lys Ser Val Leu Leu Val Val Leu Pro Leu Pro Ala Cys Leu Asn
 580 585 590
 Pro Leu Leu Tyr Leu Leu Phe Asn Pro His Phe Arg Asp Asp Leu Arg
 595 600 605
 Arg Leu Arg Pro Arg Ala Gly Asp Ser Gly Pro Leu Ala Tyr Ala Ala
 610 615 620
 Ala Gly Glu Leu Glu Lys Ser Ser Cys Asp Ser Thr Gln Ala Leu Val
 625 630 635 640
 Ala Phe Ser Asp Val Asp Leu Ile Leu Glu Ala Ser Glu Ala Gly Arg
 645 650 655

Pro Pro Gly Leu Glu Thr Tyr Gly Phe Pro Ser Val Thr Leu Ile Ser
660 665 670

Cys Gln Gln Pro Gly Ala Pro Arg Leu Glu Gly Ser His Cys Val Glu
675 680 685

Pro Glu Gly Asn His Phe Gly Asn Pro Gln Pro Ser Met Asp Gly Glu
690 695 700

Leu Leu Leu Arg Ala Glu Gly Ser Thr Pro Ala Gly Gly Gly Leu Ser
705 710 715 720

Gly Gly Gly Gly Phe Gln Pro Ser Gly Leu Ala Phe Ala Ser His Val
725 730 735

<210> 9

<211> 2208

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1) .. (2208)

<400> 9

ggg ctg cac aat ctg gag aca cta gac ctg aat tat aac aag ctg cag 48
Gly Leu His Asn Leu Glu Thr Leu Asp Leu Asn Tyr Asn Lys Leu Gln
1 5 10 15

gag ttc cct gtg gcc atc cgg acc ctg ggc aga ctg cag gaa ctg ggg 96
Glu Phe Pro Val Ala Ile Arg Thr Leu Gly Arg Leu Gln Glu Leu Gly
20 25 30

ttc cat aac aac aac atc aag gcc atc cca gaa aag gcc ttc atg ggg 144
Phe His Asn Asn Asn Ile Lys Ala Ile Pro Glu Lys Ala Phe Met Gly
35 40 45

aac cct ctg cta cag acg ata cac ttt tat gat aac cca atc cag ttt 192
Asn Pro Leu Leu Gln Thr Ile His Phe Tyr Asp Asn Pro Ile Gln Phe
50 55 60

gtg gga aga tcg gca ttc cag tac ctg cct aaa ctc cac aca cta tct 240
Val Gly Arg Ser Ala Phe Gln Tyr Leu Pro Lys Leu His Thr Leu Ser
65 70 75 80

ctg aat ggt gcc atg gac atc cag gag ttt cca gat ctc aaa ggc acc 288
Leu Asn Gly Ala Met Asp Ile Gln Glu Phe Pro Asp Leu Lys Gly Thr
85 90 95

acc agc ctg gag atc ctg acc ctg acc cgc gca ggc atc cgg ctg ctc 336
Thr Ser Leu Glu Ile Leu Thr Leu Thr Arg Ala Gly Ile Arg Leu Leu
100 105 110

cca tcg ggg atg tgc caa cag ctg ccc agg ctc cga gtc ctg gaa ctg 384
Pro Ser Gly Met Cys Gln Gln Leu Pro Arg Leu Arg Val Leu Glu Leu

	115					120					125						
tct	cac	aat	caa	att	gag	gag	ctg	ccc	agc	ctg	cac	agg	tgt	cag	aaa	432	
Ser	His	Asn	Gln	Ile	Glu	Glu	Leu	Pro	Ser	Leu	His	Arg	Cys	Gln	Lys		
	130					135					140						
ttg	gag	gaa	atc	ggc	ctc	caa	cac	aac	cgc	atc	tgg	gaa	att	gga	gct	480	
Leu	Glu	Glu	Ile	Gly	Leu	Gln	His	Asn	Arg	Ile	Trp	Glu	Ile	Gly	Ala		
	145					150					155					160	
gac	acc	ttc	agc	cag	ctg	agc	tcc	ctg	caa	gcc	ctg	gat	ctt	agc	tgg	528	
Asp	Thr	Phe	Ser	Gln	Leu	Ser	Ser	Leu	Gln	Ala	Leu	Asp	Leu	Ser	Trp		
	165					170					175						
aac	gcc	atc	cgg	tcc	atc	cac	cct	gag	gcc	ttc	tcc	acc	ctg	cac	tcc	576	
Asn	Ala	Ile	Arg	Ser	Ile	His	Pro	Glu	Ala	Phe	Ser	Thr	Leu	His	Ser		
	180					185					190						
ctg	gtc	aag	ctg	gac	ctg	aca	gac	aac	cag	ctg	acc	aca	ctg	ccc	ctg	624	
Leu	Val	Lys	Leu	Asp	Leu	Thr	Asp	Asn	Gln	Leu	Thr	Thr	Leu	Pro	Leu		
	195					200					205						
gct	gga	ctt	ggg	ggc	ttg	atg	cat	ctg	aag	ctc	aaa	ggg	aac	ctt	gct	672	
Ala	Gly	Leu	Gly	Gly	Leu	Met	His	Leu	Lys	Leu	Lys	Gly	Asn	Leu	Ala		
	210					215					220						
ctc	tcc	cag	gcc	ttc	tcc	aag	gac	agt	ttc	cca	aaa	ctg	agg	atc	ctg	720	
Leu	Ser	Gln	Ala	Phe	Ser	Lys	Asp	Ser	Phe	Pro	Lys	Leu	Arg	Ile	Leu		
	225					230					235					240	
gag	gtg	cct	tat	gcc	tac	cag	tgc	tgt	ccc	tat	ggg	atg	tgt	gcc	agc	768	
Glu	Val	Pro	Tyr	Ala	Tyr	Gln	Cys	Cys	Pro	Tyr	Gly	Met	Cys	Ala	Ser		
	245					250					255						
ttc	ttc	aag	gcc	tct	ggg	cag	tgg	gag	gct	gaa	gac	ctt	cac	ctt	gat	816	
Phe	Phe	Lys	Ala	Ser	Gly	Gln	Trp	Glu	Ala	Glu	Asp	Leu	His	Leu	Asp		
	260					265					270						
gat	gag	gag	tct	tca	aaa	agg	ccc	ctg	ggc	ctc	ctt	gcc	aga	caa	gca	864	
Asp	Glu	Glu	Ser	Ser	Lys	Arg	Pro	Leu	Gly	Leu	Leu	Ala	Arg	Gln	Ala		
	275					280					285						
gag	aac	cac	tat	gac	cag	gac	ctg	gat	gag	ctc	cag	ctg	gag	atg	gag	912	
Glu	Asn	His	Tyr	Asp	Gln	Asp	Leu	Asp	Glu	Leu	Gln	Leu	Glu	Met	Glu		
	290					295					300						
gac	tca	aag	cca	cac	ccc	agt	gtc	cag	tgt	agc	cct	act	cca	ggc	ccc	960	
Asp	Ser	Lys	Pro	His	Pro	Ser	Val	Gln	Cys	Ser	Pro	Thr	Pro	Gly	Pro		
	305					310					315					320	
ttc	aag	ccc	tgt	gag	tac	ctc	ttt	gaa	agc	tgg	ggc	atc	cgc	ctg	gcc	1008	
Phe	Lys	Pro	Cys	Glu	Tyr	Leu	Phe	Glu	Ser	Trp	Gly	Ile	Arg	Leu	Ala		
	325					330					335						
gtg	tgg	gcc	atc	gtg	ttg	ctc	tcc	gtg	ctc	tgc	aat	gga	ctg	gtg	ctg	1056	
Val	Trp	Ala	Ile	Val	Leu	Leu	Ser	Val	Leu	Cys	Asn	Gly	Leu	Val	Leu		
	340					345					350						

ctg acc gtg ttc gct ggc ggg cct gcc ccc ctg ccc ccg gtc aag ttt	1104
Leu Thr Val Phe Ala Gly Gly Pro Ala Pro Leu Pro Pro Val Lys Phe	
355 360 365	
gtg gta ggt gcg att gca ggc gcc aac acc ttg act ggc att tcc tgt	1152
Val Val Gly Ala Ile Ala Gly Ala Asn Thr Leu Thr Gly Ile Ser Cys	
370 375 380	
ggc ctt cta gcc tca gtc gat gcc ctg acc ttt ggt cag ttc tct gag	1200
Gly Leu Leu Ala Ser Val Asp Ala Leu Thr Phe Gly Gln Phe Ser Glu	
385 390 395 400	
tac gga gcc cgc tgg gag acg ggg cta ggc tgc cgg gcc act ggc ttc	1248
Tyr Gly Ala Arg Trp Glu Thr Gly Leu Gly Cys Arg Ala Thr Gly Phe	
405 410 415	
ctg gca gta ctt ggg tcg gag gca tcg gtg ctg ctg ctc act ctg gcc	1296
Leu Ala Val Leu Gly Ser Glu Ala Ser Val Leu Leu Leu Thr Leu Ala	
420 425 430	
gca gtg cag tgc agc gtc tcc gtc tcc tgt gtc cgg gcc tat ggg aag	1344
Ala Val Gln Cys Ser Val Ser Val Ser Cys Val Arg Ala Tyr Gly Lys	
435 440 445	
tcc ccc tcc ctg ggc agc gtt cga gca ggg gtc cta ggc tgc ctg gca	1392
Ser Pro Ser Leu Gly Ser Val Arg Ala Gly Val Leu Gly Cys Leu Ala	
450 455 460	
ctg gca ggg ctg gcc gcc gca ctg ccc ctg gcc tca gtg gga gaa tac	1440
Leu Ala Gly Leu Ala Ala Ala Leu Pro Leu Ala Ser Val Gly Glu Tyr	
465 470 475 480	
ggg gcc tcc cca ctc tgc ctg ccc tac gcg cca cct gag ggt cag cca	1488
Gly Ala Ser Pro Leu Cys Leu Pro Tyr Ala Pro Pro Glu Gly Gln Pro	
485 490 495	
gca gcc ctg ggc ttc acc gtg gcc ctg gtg atg atg aac tcc ttc tgt	1536
Ala Ala Leu Gly Phe Thr Val Ala Leu Val Met Met Asn Ser Phe Cys	
500 505 510	
ttc ctg gtc gtg gcc ggt gcc tac atc aaa ctg tac tgt gac ctg ccg	1584
Phe Leu Val Val Ala Gly Ala Tyr Ile Lys Leu Tyr Cys Asp Leu Pro	
515 520 525	
cgg ggc gac ttt gag gcc gtg tgg gac tgc gcc atg gtg agg cac gtg	1632
Arg Gly Asp Phe Glu Ala Val Trp Asp Cys Ala Met Val Arg His Val	
530 535 540	
gcc tgg ctc atc ttc gca gac ggg ctc ctc tac tgt ccc gtg gcc ttc	1680
Ala Trp Leu Ile Phe Ala Asp Gly Leu Leu Tyr Cys Pro Val Ala Phe	
545 550 555 560	
ctc agc ttc gcc tcc atg ctg ggc ctc ttc cct gtc acg ccc gag gcc	1728
Leu Ser Phe Ala Ser Met Leu Gly Leu Phe Pro Val Thr Pro Glu Ala	
565 570 575	

gtc aag tct gtc ctg ctg gtg gtg ctg ccc ctg cct gcc tgc ctc aac 1776
Val Lys Ser Val Leu Leu Val Val Leu Pro Leu Pro Ala Cys Leu Asn
580 585 590

cca ctg ctg tac ctg ctc ttc aac ccc cac ttc cgg gat gac ctt cgg 1824
Pro Leu Leu Tyr Leu Leu Phe Asn Pro His Phe Arg Asp Asp Leu Arg
595 600 605

cgg ctt cgg ccc cgc gca ggg gac tca ggg ccc cta gcc tat gct gcg 1872
Arg Leu Arg Pro Arg Ala Gly Asp Ser Gly Pro Leu Ala Tyr Ala Ala
610 615 620

gcc ggg gag ctg gag aag agc tcc tgt gat tct acc cag gcc ctg gta 1920
Ala Gly Glu Leu Glu Lys Ser Ser Cys Asp Ser Thr Gln Ala Leu Val
625 630 635 640

gcc ttc tct gat gtg gat ctc att ctg gaa gct tct gaa gct ggg cgg 1968
Ala Phe Ser Asp Val Asp Leu Ile Leu Glu Ala Ser Glu Ala Gly Arg
645 650 655

ccc cct ggg ctg gag acc tat ggc ttc ccc tca gtg acc ctc atc tcc 2016
Pro Pro Gly Leu Glu Thr Tyr Gly Phe Pro Ser Val Thr Leu Ile Ser
660 665 670

tgt cag cag cca ggg gcc ccc agg ctg gag ggc agc cat tgt gta gag 2064
Cys Gln Gln Pro Gly Ala Pro Arg Leu Glu Gly Ser His Cys Val Glu
675 680 685

cca gag ggg aac cac ttt ggg aac ccc caa ccc tcc atg gat gga gaa 2112
Pro Glu Gly Asn His Phe Gly Asn Pro Gln Pro Ser Met Asp Gly Glu
690 695 700

ctg ctg ctg agg gca gag gga tct acg cca gca ggt gga ggc ttg tca 2160
Leu Leu Leu Arg Ala Glu Gly Ser Thr Pro Ala Gly Gly Gly Leu Ser
705 710 715 720

ggg ggt ggc ggc ttt cag ccc tct ggc ttg gcc ttt gct tca cac gtg 2208
Gly Gly Gly Gly Phe Gln Pro Ser Gly Leu Ala Phe Ala Ser His Val
725 730 735

<210> 10
<211> 3492
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (104)...(3004)

<400> 10
ccgccsgcgg tgcagcccgc cgggaccggg aggcggcagc tgcggccacc gcgccgtgcg 60

tccgcgcccg gccgccaggt gccccagtag cccgaccgcc gag atg ccc agc ccg 115
Met Pro Ser Pro
1

ccg ggg ctc cgg gcg cta tgg ctt tgc gcc gcg ctg tgc gct tcc cgg 163

Pro	Gly	Leu	Arg	Ala	Leu	Trp	Leu	Cys	Ala	Ala	Leu	Cys	Ala	Ser	Arg		
5					10					15					20		
agg	gcc	ggc	ggc	gcc	ccc	cag	ccc	ggc	ccg	ggg	ccc	acc	gcc	tgc	ccg		211
Arg	Ala	Gly	Gly	Ala	Pro	Gln	Pro	Gly	Pro	Gly	Pro	Thr	Ala	Cys	Pro		
				25				30						35			
gcc	ccc	tgc	cac	tgc	cag	gag	gac	ggc	atc	atg	ctg	tct	gcc	gac	tgc		259
Ala	Pro	Cys	His	Cys	Gln	Glu	Asp	Gly	Ile	Met	Leu	Ser	Ala	Asp	Cys		
			40					45					50				
tct	gag	ctc	ggg	ctg	tcc	gcc	gtt	ccg	ggg	gac	ctg	gac	ccc	ctg	acg		307
Ser	Glu	Leu	Gly	Leu	Ser	Ala	Val	Pro	Gly	Asp	Leu	Asp	Pro	Leu	Thr		
	55						60					65					
gct	tac	ctg	gac	ctc	agc	atg	aac	aac	ctc	aca	gag	ctt	cag	cct	ggc		355
Ala	Tyr	Leu	Asp	Leu	Ser	Met	Asn	Asn	Leu	Thr	Glu	Leu	Gln	Pro	Gly		
	70					75					80						
ctc	ttc	cac	cac	ctg	cgc	ttc	ttg	gag	gag	ctg	cgt	ctc	tct	ggg	aac		403
Leu	Phe	His	His	Leu	Arg	Phe	Leu	Glu	Glu	Leu	Arg	Leu	Ser	Gly	Asn		
	85				90				95					100			
cat	ctc	tca	cac	atc	cca	gga	caa	gca	ttc	tct	ggt	ctc	tac	agc	ctg		451
His	Leu	Ser	His	Ile	Pro	Gly	Gln	Ala	Phe	Ser	Gly	Leu	Tyr	Ser	Leu		
				105				110						115			
aaa	atc	ctg	atg	ctg	cag	aac	aat	cag	ctg	gga	gga	atc	ccc	gca	gag		499
Lys	Ile	Leu	Met	Leu	Gln	Asn	Asn	Gln	Leu	Gly	Gly	Ile	Pro	Ala	Glu		
			120					125					130				
gcg	ctg	tgg	gag	ctg	ccg	agc	ctg	cag	tcg	ctg	cgc	cta	gat	gcc	aac		547
Ala	Leu	Trp	Glu	Leu	Pro	Ser	Leu	Gln	Ser	Leu	Arg	Leu	Asp	Ala	Asn		
	135						140					145					
ctc	atc	tcc	ctg	gtc	ccg	gag	agg	agc	ttt	gag	ggg	ctg	tcc	tcc	ctc		595
Leu	Ile	Ser	Leu	Val	Pro	Glu	Arg	Ser	Phe	Glu	Gly	Leu	Ser	Ser	Leu		
	150					155					160						
cgc	cac	ctc	tgg	ctg	gac	gac	aat	gca	ctc	acg	gag	atc	cct	gtc	agg		643
Arg	His	Leu	Trp	Leu	Asp	Asp	Asn	Ala	Leu	Thr	Glu	Ile	Pro	Val	Arg		
	165				170					175				180			
gcc	ctc	aac	aac	ctc	cct	gcc	ctg	cag	gcc	atg	acc	ctg	gcc	ctc	aac		691
Ala	Leu	Asn	Asn	Leu	Pro	Ala	Leu	Gln	Ala	Met	Thr	Leu	Ala	Leu	Asn		
				185				190						195			
cgc	atc	agc	cac	atc	ccc	gac	tac	gcg	ttc	cag	aat	ctc	acc	agc	ctt		739
Arg	Ile	Ser	His	Ile	Pro	Asp	Tyr	Ala	Phe	Gln	Asn	Leu	Thr	Ser	Leu		
			200					205					210				
gtg	gtg	ctg	cat	ttg	cat	aac	aac	cgc	atc	cag	cat	ctg	ggg	acc	cac		787
Val	Val	Leu	His	Leu	His	Asn	Asn	Arg	Ile	Gln	His	Leu	Gly	Thr	His		
			215				220					225					
agc	ttc	gag	ggg	ctg	cac	aat	ctg	gag	aca	cta	gac	ctg	aat	tat	aac		835
Ser	Phe	Glu	Gly	Leu	His	Asn	Leu	Glu	Thr	Leu	Asp	Leu	Asn	Tyr	Asn		

230	235	240	
aag ctg cag gag ttc cct gtg gcc atc cgg acc ctg ggc aga ctg cag			883
Lys Leu Gln Glu Phe Pro Val Ala Ile Arg Thr Leu Gly Arg Leu Gln			
245	250	255	260
gaa ctg ggg ttc cat aac aac aac atc aag gcc atc cca gaa aag gcc			931
Glu Leu Gly Phe His Asn Asn Asn Ile Lys Ala Ile Pro Glu Lys Ala			
265	270		275
ttc atg ggg aac cct ctg cta cag acg ata cac ttt tat gat aac cca			979
Phe Met Gly Asn Pro Leu Leu Gln Thr Ile His Phe Tyr Asp Asn Pro			
280	285		290
atc cag ttt gtg gga aga tcg gca ttc cag tac ctg cct aaa ctc cac			1027
Ile Gln Phe Val Gly Arg Ser Ala Phe Gln Tyr Leu Pro Lys Leu His			
295	300		305
aca cta tct ctg aat ggt gcc atg gac atc cag gag ttt cca gat ctc			1075
Thr Leu Ser Leu Asn Gly Ala Met Asp Ile Gln Glu Phe Pro Asp Leu			
310	315		320
aaa ggc acc acc agc ctg gag atc ctg acc ctg acc cgc gca ggc atc			1123
Lys Gly Thr Thr Ser Leu Glu Ile Leu Thr Leu Thr Arg Ala Gly Ile			
325	330		335
cgg ctg ctc cca tcg ggg atg tgc caa cag ctg ccc agg ctc cga gtc			1171
Arg Leu Leu Pro Ser Gly Met Cys Gln Gln Leu Pro Arg Leu Arg Val			
345	350		355
ctg gaa ctg tct cac aat caa att gag gag ctg ccc agc ctg cac agg			1219
Leu Glu Leu Ser His Asn Gln Ile Glu Glu Leu Pro Ser Leu His Arg			
360	365		370
tgt cag aaa ttg gag gaa atc ggc ctc caa cac aac cgc atc tgg gaa			1267
Cys Gln Lys Leu Glu Glu Ile Gly Leu Gln His Asn Arg Ile Trp Glu			
375	380		385
att gga gct gac acc ttc agc cag ctg agc tcc ctg caa gcc ctg gat			1315
Ile Gly Ala Asp Thr Phe Ser Gln Leu Ser Ser Leu Gln Ala Leu Asp			
390	395		400
ctt agc tgg aac gcc atc cgg tcc atc cac cct gag gcc ttc tcc acc			1363
Leu Ser Trp Asn Ala Ile Arg Ser Ile His Pro Glu Ala Phe Ser Thr			
405	410		415
ctg cac tcc ctg gtc aag ctg gac ctg aca gac aac cag ctg acc aca			1411
Leu His Ser Leu Val Lys Leu Asp Leu Thr Asp Asn Gln Leu Thr Thr			
425	430		435
ctg ccc ctg gct gga ctt ggg ggc ttg atg cat ctg aag ctc aaa ggg			1459
Leu Pro Leu Ala Gly Leu Gly Gly Leu Met His Leu Lys Leu Lys Gly			
440	445		450
aac ctt gct ctc tcc cag gcc ttc tcc aag gac agt ttc cca aaa ctg			1507
Asn Leu Ala Leu Ser Gln Ala Phe Ser Lys Asp Ser Phe Pro Lys Leu			
455	460		465

agg atc ctg gag gtg cct tat gcc tac cag tgc tgt ccc tat ggg atg	1555
Arg Ile Leu Glu Val Pro Tyr Ala Tyr Gln Cys Cys Pro Tyr Gly Met	
470 475 480	
tgt gcc agc ttc ttc aag gcc tct ggg cag tgg gag gct gaa gac ctt	1603
Cys Ala Ser Phe Phe Lys Ala Ser Gly Gln Trp Glu Ala Glu Asp Leu	
485 490 495 500	
cac ctt gat gat gag gag tct tca aaa agg ccc ctg ggc ctc ctt gcc	1651
His Leu Asp Asp Glu Glu Ser Ser Lys Arg Pro Leu Gly Leu Leu Ala	
505 510 515	
aga caa gca gag aac cac tat gac cag gac ctg gat gag ctc cag ctg	1699
Arg Gln Ala Glu Asn His Tyr Asp Gln Asp Leu Asp Glu Leu Gln Leu	
520 525 530	
gag atg gag gac tca aag cca cac ccc agt gtc cag tgt agc cct act	1747
Glu Met Glu Asp Ser Lys Pro His Pro Ser Val Gln Cys Ser Pro Thr	
535 540 545	
cca ggc ccc ttc aag ccc tgt gag tac ctc ttt gaa agc tgg ggc atc	1795
Pro Gly Pro Phe Lys Pro Cys Glu Tyr Leu Phe Glu Ser Trp Gly Ile	
550 555 560	
cgc ctg gcc gtg tgg gcc atc gtg ttg ctc tcc gtg ctc tgc aat gga	1843
Arg Leu Ala Val Trp Ala Ile Val Leu Leu Ser Val Leu Cys Asn Gly	
565 570 575 580	
ctg gtg ctg ctg acc gtg ttc gct ggc ggg cct gcc ccc ctg ccc ccg	1891
Leu Val Leu Leu Thr Val Phe Ala Gly Gly Pro Ala Pro Leu Pro Pro	
585 590 595	
gtc aag ttt gtg gta ggt gcg att gca ggc gcc aac acc ttg act ggc	1939
Val Lys Phe Val Val Gly Ala Ile Ala Gly Ala Asn Thr Leu Thr Gly	
600 605 610	
att tcc tgt ggc ctt cta gcc tca gtc gat gcc ctg acc ttt ggt cag	1987
Ile Ser Cys Gly Leu Leu Ala Ser Val Asp Ala Leu Thr Phe Gly Gln	
615 620 625	
ttc tct gag tac gga gcc cgc tgg gag acg ggg cta ggc tgc cgg gcc	2035
Phe Ser Glu Tyr Gly Ala Arg Trp Glu Thr Gly Leu Gly Cys Arg Ala	
630 635 640	
act ggc ttc ctg gca gta ctt ggg tcg gag gca tcg gtg ctg ctg ctc	2083
Thr Gly Phe Leu Ala Val Leu Gly Ser Glu Ala Ser Val Leu Leu Leu	
645 650 655 660	
act ctg gcc gca gtg cag tgc agc gtc tcc gtc tcc tgt gtc cgg gcc	2131
Thr Leu Ala Ala Val Gln Cys Ser Val Ser Val Ser Cys Val Arg Ala	
665 670 675	
tat ggg aag tcc ccc tcc ctg ggc agc gtt cga gca ggg gtc cta ggc	2179
Tyr Gly Lys Ser Pro Ser Leu Gly Ser Val Arg Ala Gly Val Leu Gly	
680 685 690	

tgc ctg gca ctg gca ggg ctg gcc gcc gca ctg ccc ctg gcc tca gtg 2227
 Cys Leu Ala Leu Ala Gly Leu Ala Ala Ala Leu Pro Leu Ala Ser Val
 695 700 705

gga gaa tac ggg gcc tcc cca ctc tgc ctg ccc tac gcg cca cct gag 2275
 Gly Glu Tyr Gly Ala Ser Pro Leu Cys Leu Pro Tyr Ala Pro Pro Glu
 710 715 720

ggt cag cca gca gcc ctg ggc ttc acc gtg gcc ctg gtg atg atg aac 2323
 Gly Gln Pro Ala Ala Leu Gly Phe Thr Val Ala Leu Val Met Met Asn
 725 730 735 740

tcc ttc tgt ttc ctg gtc gtg gcc ggt gcc tac atc aaa ctg tac tgt 2371
 Ser Phe Cys Phe Leu Val Val Ala Gly Ala Tyr Ile Lys Leu Tyr Cys
 745 750 755

gac ctg ccg cgg ggc gac ttt gag gcc gtg tgg gac tgc gcc atg gtg 2419
 Asp Leu Pro Arg Gly Asp Phe Glu Ala Val Trp Asp Cys Ala Met Val
 760 765 770

agg cac gtg gcc tgg ctc atc ttc gca gac ggg ctc ctc tac tgt ccc 2467
 Arg His Val Ala Trp Leu Ile Phe Ala Asp Gly Leu Leu Tyr Cys Pro
 775 780 785

gtg gcc ttc ctc agc ttc gcc tcc atg ctg ggc ctc ttc cct gtc acg 2515
 Val Ala Phe Leu Ser Phe Ala Ser Met Leu Gly Leu Phe Pro Val Thr
 790 795 800

ccc gag gcc gtc aag tct gtc ctg ctg gtg gtg ctg ccc ctg cct gcc 2563
 Pro Glu Ala Val Lys Ser Val Leu Leu Val Val Leu Pro Leu Pro Ala
 805 810 815 820

tgc ctc aac cca ctg ctg tac ctg ctc ttc aac ccc cac ttc cgg gat 2611
 Cys Leu Asn Pro Leu Leu Tyr Leu Leu Phe Asn Pro His Phe Arg Asp
 825 830 835

gac ctt cgg cgg ctt cgg ccc cgc gca ggg gac tca ggg ccc cta gcc 2659
 Asp Leu Arg Arg Leu Arg Pro Arg Ala Gly Asp Ser Gly Pro Leu Ala
 840 845 850

tat gct gcg gcc ggg gag ctg gag aag agc tcc tgt gat tct acc cag 2707
 Tyr Ala Ala Ala Gly Glu Leu Glu Lys Ser Ser Cys Asp Ser Thr Gln
 855 860 865

gcc ctg gta gcc ttc tct gat gtg gat ctc att ctg gaa gct tct gaa 2755
 Ala Leu Val Ala Phe Ser Asp Val Asp Leu Ile Leu Glu Ala Ser Glu
 870 875 880

gct ggg cgg ccc cct ggg ctg gag acc tat ggc ttc ccc tca gtg acc 2803
 Ala Gly Arg Pro Pro Gly Leu Glu Thr Tyr Gly Phe Pro Ser Val Thr
 885 890 895 900

ctc atc tcc tgt cag cag cca ggg gcc ccc agg ctg gag ggc agc cat 2851
 Leu Ile Ser Cys Gln Gln Pro Gly Ala Pro Arg Leu Glu Gly Ser His
 905 910 915

tgt gta gag cca gag ggg aac cac ttt ggg aac ccc caa ccc tcc atg 2899

Cys Val Glu Pro Glu Gly Asn His Phe Gly Asn Pro Gln Pro Ser Met
 920 925 930

gat gga gaa ctg ctg ctg agg gca gag gga tct acg cca gca ggt gga 2947
 Asp Gly Glu Leu Leu Leu Arg Ala Glu Gly Ser Thr Pro Ala Gly Gly
 935 940 945

ggc ttg tca ggg ggt ggc ggc ttt cag ccc tct ggc ttg gcc ttt gct 2995
 Gly Leu Ser Gly Gly Gly Gly Phe Gln Pro Ser Gly Leu Ala Phe Ala
 950 955 960

tca cac gtg taaatatccc tccccattct tctcttcccc tctcttccct 3044
 Ser His Val
 965

ttcctctctc cccctcggtg aatgatggct gcttctaaaa caaatacaac caaaactcag 3104

cagtgtgatc tatagcagga tggcccagta cctggctcca ctgatcacct ctctcctgtg 3164

accatcacca acgggtgcct cttggcctgg ctttcccttg gccttcccca gcttcacctt 3224

gatactgggc ctcttccttg tcatgtctga agctgtggac caragacctg gacttttgtc 3284

tgcttaaggg aaatgagggg agtaaagaca gtgaaggggt ggaggggttga tcagggcaca 3344

gtggacaggg agacctcaca raaaaaggcc tggaaggkga tttcccgtgt gactcatggr 3404

taggawacaa aatgtgttcc atgtaccatt aatcttgaca tatgccatgc ataaaractt 3464

cctattaataa taagcttttg ragagatt 3492

<210> 11

<211> 967

<212> PRT

<213> Homo sapiens

<400> 11

Met Pro Ser Pro Pro Gly Leu Arg Ala Leu Trp Leu Cys Ala Ala Leu
 1 5 10 15

Cys Ala Ser Arg Arg Ala Gly Gly Ala Pro Gln Pro Gly Pro Gly Pro
 20 25 30

Thr Ala Cys Pro Ala Pro Cys His Cys Gln Glu Asp Gly Ile Met Leu
 35 40 45

Ser Ala Asp Cys Ser Glu Leu Gly Leu Ser Ala Val Pro Gly Asp Leu
 50 55 60

Asp Pro Leu Thr Ala Tyr Leu Asp Leu Ser Met Asn Asn Leu Thr Glu
 65 70 75 80

Leu Gln Pro Gly Leu Phe His His Leu Arg Phe Leu Glu Glu Leu Arg
 85 90 95

Leu Ser Gly Asn His Leu Ser His Ile Pro Gly Gln Ala Phe Ser Gly
 100 105 110

114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999

Leu Tyr Ser Leu Lys Ile Leu Met Leu Gln Asn Asn Gln Leu Gly Gly
 115 120 125
 Ile Pro Ala Glu Ala Leu Trp Glu Leu Pro Ser Leu Gln Ser Leu Arg
 130 135 140
 Leu Asp Ala Asn Leu Ile Ser Leu Val Pro Glu Arg Ser Phe Glu Gly
 145 150 155 160
 Leu Ser Ser Leu Arg His Leu Trp Leu Asp Asp Asn Ala Leu Thr Glu
 165 170 175
 Ile Pro Val Arg Ala Leu Asn Asn Leu Pro Ala Leu Gln Ala Met Thr
 180 185 190
 Leu Ala Leu Asn Arg Ile Ser His Ile Pro Asp Tyr Ala Phe Gln Asn
 195 200 205
 Leu Thr Ser Leu Val Val Leu His Leu His Asn Asn Arg Ile Gln His
 210 215 220
 Leu Gly Thr His Ser Phe Glu Gly Leu His Asn Leu Glu Thr Leu Asp
 225 230 235 240
 Leu Asn Tyr Asn Lys Leu Gln Glu Phe Pro Val Ala Ile Arg Thr Leu
 245 250 255
 Gly Arg Leu Gln Glu Leu Gly Phe His Asn Asn Asn Ile Lys Ala Ile
 260 265 270
 Pro Glu Lys Ala Phe Met Gly Asn Pro Leu Leu Gln Thr Ile His Phe
 275 280 285
 Tyr Asp Asn Pro Ile Gln Phe Val Gly Arg Ser Ala Phe Gln Tyr Leu
 290 295 300
 Pro Lys Leu His Thr Leu Ser Leu Asn Gly Ala Met Asp Ile Gln Glu
 305 310 315 320
 Phe Pro Asp Leu Lys Gly Thr Thr Ser Leu Glu Ile Leu Thr Leu Thr
 325 330 335
 Arg Ala Gly Ile Arg Leu Leu Pro Ser Gly Met Cys Gln Gln Leu Pro
 340 345 350
 Arg Leu Arg Val Leu Glu Leu Ser His Asn Gln Ile Glu Glu Leu Pro
 355 360 365
 Ser Leu His Arg Cys Gln Lys Leu Glu Glu Ile Gly Leu Gln His Asn
 370 375 380
 Arg Ile Trp Glu Ile Gly Ala Asp Thr Phe Ser Gln Leu Ser Ser Leu
 385 390 395 400
 Gln Ala Leu Asp Leu Ser Trp Asn Ala Ile Arg Ser Ile His Pro Glu
 405 410 415

Ala Phe Ser Thr Leu His Ser Leu Val Lys Leu Asp Leu Thr Asp Asn
 420 425 430
 Gln Leu Thr Thr Leu Pro Leu Ala Gly Leu Gly Gly Leu Met His Leu
 435 440 445
 Lys Leu Lys Gly Asn Leu Ala Leu Ser Gln Ala Phe Ser Lys Asp Ser
 450 455 460
 Phe Pro Lys Leu Arg Ile Leu Glu Val Pro Tyr Ala Tyr Gln Cys Cys
 465 470 475 480
 Pro Tyr Gly Met Cys Ala Ser Phe Phe Lys Ala Ser Gly Gln Trp Glu
 485 490 495
 Ala Glu Asp Leu His Leu Asp Asp Glu Glu Ser Ser Lys Arg Pro Leu
 500 505 510
 Gly Leu Leu Ala Arg Gln Ala Glu Asn His Tyr Asp Gln Asp Leu Asp
 515 520 525
 Glu Leu Gln Leu Glu Met Glu Asp Ser Lys Pro His Pro Ser Val Gln
 530 535 540
 Cys Ser Pro Thr Pro Gly Pro Phe Lys Pro Cys Glu Tyr Leu Phe Glu
 545 550 555 560
 Ser Trp Gly Ile Arg Leu Ala Val Trp Ala Ile Val Leu Leu Ser Val
 565 570 575
 Leu Cys Asn Gly Leu Val Leu Leu Thr Val Phe Ala Gly Gly Pro Ala
 580 585 590
 Pro Leu Pro Pro Val Lys Phe Val Val Gly Ala Ile Ala Gly Ala Asn
 595 600 605
 Thr Leu Thr Gly Ile Ser Cys Gly Leu Leu Ala Ser Val Asp Ala Leu
 610 615 620
 Thr Phe Gly Gln Phe Ser Glu Tyr Gly Ala Arg Trp Glu Thr Gly Leu
 625 630 635 640
 Gly Cys Arg Ala Thr Gly Phe Leu Ala Val Leu Gly Ser Glu Ala Ser
 645 650 655
 Val Leu Leu Leu Thr Leu Ala Ala Val Gln Cys Ser Val Ser Val Ser
 660 665 670
 Cys Val Arg Ala Tyr Gly Lys Ser Pro Ser Leu Gly Ser Val Arg Ala
 675 680 685
 Gly Val Leu Gly Cys Leu Ala Leu Ala Gly Leu Ala Ala Ala Leu Pro
 690 695 700
 Leu Ala Ser Val Gly Glu Tyr Gly Ala Ser Pro Leu Cys Leu Pro Tyr
 705 710 715 720

Ala Pro Pro Glu Gly Gln Pro Ala Ala Leu Gly Phe Thr Val Ala Leu
 725 730 735
 Val Met Met Asn Ser Phe Cys Phe Leu Val Val Ala Gly Ala Tyr Ile
 740 745 750
 Lys Leu Tyr Cys Asp Leu Pro Arg Gly Asp Phe Glu Ala Val Trp Asp
 755 760 765
 Cys Ala Met Val Arg His Val Ala Trp Leu Ile Phe Ala Asp Gly Leu
 770 775 780
 Leu Tyr Cys Pro Val Ala Phe Leu Ser Phe Ala Ser Met Leu Gly Leu
 785 790 795 800
 Phe Pro Val Thr Pro Glu Ala Val Lys Ser Val Leu Leu Val Val Leu
 805 810 815
 Pro Leu Pro Ala Cys Leu Asn Pro Leu Leu Tyr Leu Leu Phe Asn Pro
 820 825 830
 His Phe Arg Asp Asp Leu Arg Arg Leu Arg Pro Arg Ala Gly Asp Ser
 835 840 845
 Gly Pro Leu Ala Tyr Ala Ala Ala Gly Glu Leu Glu Lys Ser Ser Cys
 850 855 860
 Asp Ser Thr Gln Ala Leu Val Ala Phe Ser Asp Val Asp Leu Ile Leu
 865 870 875 880
 Glu Ala Ser Glu Ala Gly Arg Pro Pro Gly Leu Glu Thr Tyr Gly Phe
 885 890 895
 Pro Ser Val Thr Leu Ile Ser Cys Gln Gln Pro Gly Ala Pro Arg Leu
 900 905 910
 Glu Gly Ser His Cys Val Glu Pro Glu Gly Asn His Phe Gly Asn Pro
 915 920 925
 Gln Pro Ser Met Asp Gly Glu Leu Leu Leu Arg Ala Glu Gly Ser Thr
 930 935 940
 Pro Ala Gly Gly Gly Leu Ser Gly Gly Gly Gly Phe Gln Pro Ser Gly
 945 950 955 960
 Leu Ala Phe Ala Ser His Val
 965

<210> 12
 <211> 2901
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1) ... (2901)

<400> 12

atg ccc agc ccg ccg ggg ctc cgg gcg cta tgg ctt tgc gcc gcg ctg	48
Met Pro Ser Pro Pro Gly Leu Arg Ala Leu Trp Leu Cys Ala Ala Leu	
1 5 10 15	
tgc gct tcc cgg agg gcc ggc ggc gcc ccc cag ccc ggc ccg ggg ccc	96
Cys Ala Ser Arg Arg Ala Gly Gly Ala Pro Gln Pro Gly Pro Gly Pro	
20 25 30	
acc gcc tgc ccg gcc ccc tgc cac tgc cag gag gac ggc atc atg ctg	144
Thr Ala Cys Pro Ala Pro Cys His Cys Gln Glu Asp Gly Ile Met Leu	
35 40 45	
tct gcc gac tgc tct gag ctc ggg ctg tcc gcc gtt ccg ggg gac ctg	192
Ser Ala Asp Cys Ser Glu Leu Gly Leu Ser Ala Val Pro Gly Asp Leu	
50 55 60	
gac ccc ctg acg gct tac ctg gac ctc agc atg aac aac ctc aca gag	240
Asp Pro Leu Thr Ala Tyr Leu Asp Leu Ser Met Asn Asn Leu Thr Glu	
65 70 75 80	
ctt cag cct ggc ctc ttc cac cac ctg cgc ttc ttg gag gag ctg cgt	288
Leu Gln Pro Gly Leu Phe His His Leu Arg Phe Leu Glu Glu Leu Arg	
85 90 95	
ctc tct ggg aac cat ctc tca cac atc cca gga caa gca ttc tct ggt	336
Leu Ser Gly Asn His Leu Ser His Ile Pro Gly Gln Ala Phe Ser Gly	
100 105 110	
ctc tac agc ctg aaa atc ctg atg ctg cag aac aat cag ctg gga gga	384
Leu Tyr Ser Leu Lys Ile Leu Met Leu Gln Asn Asn Gln Leu Gly Gly	
115 120 125	
atc ccc gca gag gcg ctg tgg gag ctg ccg agc ctg cag tcg ctg cgc	432
Ile Pro Ala Glu Ala Leu Trp Glu Leu Pro Ser Leu Gln Ser Leu Arg	
130 135 140	
cta gat gcc aac ctc atc tcc ctg gtc ccg gag agg agc ttt gag ggg	480
Leu Asp Ala Asn Leu Ile Ser Leu Val Pro Glu Arg Ser Phe Glu Gly	
145 150 155 160	
ctg tcc tcc ctc cgc cac ctc tgg ctg gac gac aat gca ctc acg gag	528
Leu Ser Ser Leu Arg His Leu Trp Leu Asp Asp Asn Ala Leu Thr Glu	
165 170 175	
atc cct gtc agg gcc ctc aac aac ctc cct gcc ctg cag gcc atg acc	576
Ile Pro Val Arg Ala Leu Asn Asn Leu Pro Ala Leu Gln Ala Met Thr	
180 185 190	
ctg gcc ctc aac cgc atc agc cac atc ccc gac tac gcg ttc cag aat	624
Leu Ala Leu Asn Arg Ile Ser His Ile Pro Asp Tyr Ala Phe Gln Asn	
195 200 205	
ctc acc agc ctt gtg gtg ctg cat ttg cat aac aac cgc atc cag cat	672
Leu Thr Ser Leu Val Val Leu His Leu His Asn Asn Arg Ile Gln His	
210 215 220	

ctg ggg acc cac agc ttc gag ggg ctg cac aat ctg gag aca cta gac	720
Leu Gly Thr His Ser Phe Glu Gly Leu His Asn Leu Glu Thr Leu Asp	
225 230 235 240	
ctg aat tat aac aag ctg cag gag ttc cct gtg gcc atc cgg acc ctg	768
Leu Asn Tyr Asn Lys Leu Gln Glu Phe Pro Val Ala Ile Arg Thr Leu	
245 250 255	
ggc aga ctg cag gaa ctg ggg ttc cat aac aac aac atc aag gcc atc	816
Gly Arg Leu Gln Glu Leu Gly Phe His Asn Asn Asn Ile Lys Ala Ile	
260 265 270	
cca gaa aag gcc ttc atg ggg aac cct ctg cta cag acg ata cac ttt	864
Pro Glu Lys Ala Phe Met Gly Asn Pro Leu Leu Gln Thr Ile His Phe	
275 280 285	
tat gat aac cca atc cag ttt gtg gga aga tcg gca ttc cag tac ctg	912
Tyr Asp Asn Pro Ile Gln Phe Val Gly Arg Ser Ala Phe Gln Tyr Leu	
290 295 300	
cct aaa ctc cac aca cta tct ctg aat ggt gcc atg gac atc cag gag	960
Pro Lys Leu His Thr Leu Ser Leu Asn Gly Ala Met Asp Ile Gln Glu	
305 310 315 320	
ttt cca gat ctc aaa ggc acc acc agc ctg gag atc ctg acc ctg acc	1008
Phe Pro Asp Leu Lys Gly Thr Thr Ser Leu Glu Ile Leu Thr Leu Thr	
325 330 335	
cgc gca ggc atc cgg ctg ctc cca tcg ggg atg tgc caa cag ctg ccc	1056
Arg Ala Gly Ile Arg Leu Leu Pro Ser Gly Met Cys Gln Gln Leu Pro	
340 345 350	
agg ctc cga gtc ctg gaa ctg tct cac aat caa att gag gag ctg ccc	1104
Arg Leu Arg Val Leu Glu Leu Ser His Asn Gln Ile Glu Glu Leu Pro	
355 360 365	
agc ctg cac agg tgt cag aaa ttg gag gaa atc ggc ctc caa cac aac	1152
Ser Leu His Arg Cys Gln Lys Leu Glu Glu Ile Gly Leu Gln His Asn	
370 375 380	
cgc atc tgg gaa att gga gct gac acc ttc agc cag ctg agc tcc ctg	1200
Arg Ile Trp Glu Ile Gly Ala Asp Thr Phe Ser Gln Leu Ser Ser Leu	
385 390 395 400	
caa gcc ctg gat ctt agc tgg aac gcc atc cgg tcc atc cac cct gag	1248
Gln Ala Leu Asp Leu Ser Trp Asn Ala Ile Arg Ser Ile His Pro Glu	
405 410 415	
gcc ttc tcc acc ctg cac tcc ctg gtc aag ctg gac ctg aca gac aac	1296
Ala Phe Ser Thr Leu His Ser Leu Val Lys Leu Asp Leu Thr Asp Asn	
420 425 430	
cag ctg acc aca ctg ccc ctg gct gga ctt ggg ggc ttg atg cat ctg	1344
Gln Leu Thr Thr Leu Pro Leu Ala Gly Leu Gly Gly Leu Met His Leu	
435 440 445	

aag ctc aaa ggg aac ctt gct ctc tcc cag gcc ttc tcc aag gac agt	1392
Lys Leu Lys Gly Asn Leu Ala Leu Ser Gln Ala Phe Ser Lys Asp Ser	
450 455 460	
ttc cca aaa ctg agg atc ctg gag gtg cct tat gcc tac cag tgc tgt	1440
Phe Pro Lys Leu Arg Ile Leu Glu Val Pro Tyr Ala Tyr Gln Cys Cys	
465 470 475 480	
ccc tat ggg atg tgt gcc agc ttc ttc aag gcc tct ggg cag tgg gag	1488
Pro Tyr Gly Met Cys Ala Ser Phe Phe Lys Ala Ser Gly Gln Trp Glu	
485 490 495	
gct gaa gac ctt cac ctt gat gat gag gag tct tca aaa agg ccc ctg	1536
Ala Glu Asp Leu His Leu Asp Asp Glu Glu Ser Ser Lys Arg Pro Leu	
500 505 510	
ggc ctc ctt gcc aga caa gca gag aac cac tat gac cag gac ctg gat	1584
Gly Leu Leu Ala Arg Gln Ala Glu Asn His Tyr Asp Gln Asp Leu Asp	
515 520 525	
gag ctc cag ctg gag atg gag gac tca aag cca cac ccc agt gtc cag	1632
Glu Leu Gln Leu Glu Met Glu Asp Ser Lys Pro His Pro Ser Val Gln	
530 535 540	
tgt agc cct act cca ggc ccc ttc aag ccc tgt gag tac ctc ttt gaa	1680
Cys Ser Pro Thr Pro Gly Pro Phe Lys Pro Cys Glu Tyr Leu Phe Glu	
545 550 555 560	
agc tgg ggc atc cgc ctg gcc gtg tgg gcc atc gtg ttg ctc tcc gtg	1728
Ser Trp Gly Ile Arg Leu Ala Val Trp Ala Ile Val Leu Leu Ser Val	
565 570 575	
ctc tgc aat gga ctg gtg ctg ctg acc gtg ttc gct ggc ggg cct gcc	1776
Leu Cys Asn Gly Leu Val Leu Leu Thr Val Phe Ala Gly Gly Pro Ala	
580 585 590	
ccc ctg ccc ccg gtc aag ttt gtg gta ggt gcg att gca ggc gcc aac	1824
Pro Leu Pro Pro Val Lys Phe Val Val Gly Ala Ile Ala Gly Ala Asn	
595 600 605	
acc ttg act ggc att tcc tgt ggc ctt cta gcc tca gtc gat gcc ctg	1872
Thr Leu Thr Gly Ile Ser Cys Gly Leu Leu Ala Ser Val Asp Ala Leu	
610 615 620	
acc ttt ggt cag ttc tct gag tac gga gcc cgc tgg gag acg ggg cta	1920
Thr Phe Gly Gln Phe Ser Glu Tyr Gly Ala Arg Trp Glu Thr Gly Leu	
625 630 635 640	
ggc tgc cgg gcc act ggc ttc ctg gca gta ctt ggg tcg gag gca tcg	1968
Gly Cys Arg Ala Thr Gly Phe Leu Ala Val Leu Gly Ser Glu Ala Ser	
645 650 655	
gtg ctg ctg ctc act ctg gcc gca gtg cag tgc agc gtc tcc gtc tcc	2016
Val Leu Leu Leu Thr Leu Ala Ala Val Gln Cys Ser Val Ser Val Ser	
660 665 670	
tgt gtc cgg gcc tat ggg aag tcc ccc tcc ctg ggc agc gtt cga gca	2064

Cys	Val	Arg	Ala	Tyr	Gly	Lys	Ser	Pro	Ser	Leu	Gly	Ser	Val	Arg	Ala	
	675						680					685				
ggg	gtc	cta	ggc	tgc	ctg	gca	ctg	gca	ggg	ctg	gcc	gcc	gca	ctg	ccc	2112
Gly	Val	Leu	Gly	Cys	Leu	Ala	Leu	Ala	Gly	Leu	Ala	Ala	Ala	Leu	Pro	
	690					695					700					
ctg	gcc	tca	gtg	gga	gaa	tac	ggg	gcc	tcc	cca	ctc	tgc	ctg	ccc	tac	2160
Leu	Ala	Ser	Val	Gly	Glu	Tyr	Gly	Ala	Ser	Pro	Leu	Cys	Leu	Pro	Tyr	
705					710					715					720	
gcg	cca	cct	gag	ggg	cag	cca	gca	gcc	ctg	ggc	ttc	acc	gtg	gcc	ctg	2208
Ala	Pro	Pro	Glu	Gly	Gln	Pro	Ala	Ala	Leu	Gly	Phe	Thr	Val	Ala	Leu	
				725					730					735		
gtg	atg	atg	aac	tcc	ttc	tgt	ttc	ctg	gtc	gtg	gcc	ggg	gcc	tac	atc	2256
Val	Met	Met	Asn	Ser	Phe	Cys	Phe	Leu	Val	Val	Ala	Gly	Ala	Tyr	Ile	
			740					745					750			
aaa	ctg	tac	tgt	gac	ctg	cgg	cgg	ggc	gac	ttt	gag	gcc	gtg	tgg	gac	2304
Lys	Leu	Tyr	Cys	Asp	Leu	Pro	Arg	Gly	Asp	Phe	Glu	Ala	Val	Trp	Asp	
	755						760					765				
tgc	gcc	atg	gtg	agg	cac	gtg	gcc	tgg	ctc	atc	ttc	gca	gac	ggg	ctc	2352
Cys	Ala	Met	Val	Arg	His	Val	Ala	Trp	Leu	Ile	Phe	Ala	Asp	Gly	Leu	
	770					775						780				
ctc	tac	tgt	ccc	gtg	gcc	ttc	ctc	agc	ttc	gcc	tcc	atg	ctg	ggc	ctc	2400
Leu	Tyr	Cys	Pro	Val	Ala	Phe	Leu	Ser	Phe	Ala	Ser	Met	Leu	Gly	Leu	
785					790					795					800	
ttc	cct	gtc	acg	ccc	gag	gcc	gtc	aag	tct	gtc	ctg	ctg	gtg	gtg	ctg	2448
Phe	Pro	Val	Thr	Pro	Glu	Ala	Val	Lys	Ser	Val	Leu	Leu	Val	Val	Leu	
				805					810					815		
ccc	ctg	cct	gcc	tgc	ctc	aac	cca	ctg	ctg	tac	ctg	ctc	ttc	aac	ccc	2496
Pro	Leu	Pro	Ala	Cys	Leu	Asn	Pro	Leu	Leu	Tyr	Leu	Leu	Phe	Asn	Pro	
			820					825					830			
cac	ttc	cgg	gat	gac	ctt	cgg	cgg	ctt	cgg	ccc	cgc	gca	ggg	gac	tca	2544
His	Phe	Arg	Asp	Asp	Leu	Arg	Arg	Leu	Arg	Pro	Arg	Ala	Gly	Asp	Ser	
		835					840					845				
ggg	ccc	cta	gcc	tat	gct	gcg	gcc	ggg	gag	ctg	gag	aag	agc	tcc	tgt	2592
Gly	Pro	Leu	Ala	Tyr	Ala	Ala	Ala	Gly	Glu	Leu	Glu	Lys	Ser	Ser	Cys	
	850					855					860					
gat	tct	acc	cag	gcc	ctg	gta	gcc	ttc	tct	gat	gtg	gat	ctc	att	ctg	2640
Asp	Ser	Thr	Gln	Ala	Leu	Val	Ala	Phe	Ser	Asp	Val	Asp	Leu	Ile	Leu	
865					870					875					880	

900	905	910	
gag ggc agc cat tgt gta gag	cca gag ggg aac cac ttt	ggg aac ccc	2784
Glu Gly Ser His Cys Val Glu	Pro Glu Gly Asn His Phe	Gly Asn Pro	
915	920	925	
caa ccc tcc atg gat gga gaa	ctg ctg ctg agg gca gag	gga tct acg	2832
Gln Pro Ser Met Asp Gly Glu	Leu Leu Leu Arg Ala Glu	Gly Ser Thr	
930	935	940	
cca gca ggt gga ggc ttg tca	ggg ggt ggc ggc ttt cag	ccc tct ggc	2880
Pro Ala Gly Gly Gly Leu Ser	Gly Gly Gly Gly Phe Gln	Pro Ser Gly	
945	950	955	960
ttg gcc ttt gct tca cac gtg			2901
Leu Ala Phe Ala Ser His Val			
965			

1
 2
 3
 4
 5
 6
 7
 8
 9
 10
 11
 12
 13
 14
 15
 16
 17
 18
 19
 20
 21
 22
 23
 24
 25
 26
 27
 28
 29
 30
 31
 32
 33
 34
 35
 36
 37
 38
 39
 40
 41
 42
 43
 44
 45
 46
 47
 48
 49
 50
 51
 52
 53
 54
 55
 56
 57
 58
 59
 60
 61
 62
 63
 64
 65
 66
 67
 68
 69
 70
 71
 72
 73
 74
 75
 76
 77
 78
 79
 80
 81
 82
 83
 84
 85
 86
 87
 88
 89
 90
 91
 92
 93
 94
 95
 96
 97
 98
 99
 100
 101
 102
 103
 104
 105
 106
 107
 108
 109
 110
 111
 112
 113
 114
 115
 116
 117
 118
 119
 120
 121
 122
 123
 124
 125
 126
 127
 128
 129
 130
 131
 132
 133
 134
 135
 136
 137
 138
 139
 140
 141
 142
 143
 144
 145
 146
 147
 148
 149
 150
 151
 152
 153
 154
 155
 156
 157
 158
 159
 160
 161
 162
 163
 164
 165
 166
 167
 168
 169
 170
 171
 172
 173
 174
 175
 176
 177
 178
 179
 180
 181
 182
 183
 184
 185
 186
 187
 188
 189
 190
 191
 192
 193
 194
 195
 196
 197
 198
 199
 200
 201
 202
 203
 204
 205
 206
 207
 208
 209
 210
 211
 212
 213
 214
 215
 216
 217
 218
 219
 220
 221
 222
 223
 224
 225
 226
 227
 228
 229
 230
 231
 232
 233
 234
 235
 236
 237
 238
 239
 240
 241
 242
 243
 244
 245
 246
 247
 248
 249
 250
 251
 252
 253
 254
 255
 256
 257
 258
 259
 260
 261
 262
 263
 264
 265
 266
 267
 268
 269
 270
 271
 272
 273
 274
 275
 276
 277
 278
 279
 280
 281
 282
 283
 284
 285
 286
 287
 288
 289
 290
 291
 292
 293
 294
 295
 296
 297
 298
 299
 300
 301
 302
 303
 304
 305
 306
 307
 308
 309
 310
 311
 312
 313
 314
 315
 316
 317
 318
 319
 320
 321
 322
 323
 324
 325
 326
 327
 328
 329
 330
 331
 332
 333
 334
 335
 336
 337
 338
 339
 340
 341
 342
 343
 344
 345
 346
 347
 348
 349
 350
 351
 352
 353
 354
 355
 356
 357
 358
 359
 360
 361
 362
 363
 364
 365
 366
 367
 368
 369
 370
 371
 372
 373
 374
 375
 376
 377
 378
 379
 380
 381
 382
 383
 384
 385
 386
 387
 388
 389
 390
 391
 392
 393
 394
 395
 396
 397
 398
 399
 400
 401
 402
 403
 404
 405
 406
 407
 408
 409
 410
 411
 412
 413
 414
 415
 416
 417
 418
 419
 420
 421
 422
 423
 424
 425
 426
 427
 428
 429
 430
 431
 432
 433
 434
 435
 436
 437
 438
 439
 440
 441
 442
 443
 444
 445
 446
 447
 448
 449
 450
 451
 452
 453
 454
 455
 456
 457
 458
 459
 460
 461
 462
 463
 464
 465
 466
 467
 468
 469
 470
 471
 472
 473
 474
 475
 476
 477
 478
 479
 480
 481
 482
 483
 484
 485
 486
 487
 488
 489
 490
 491
 492
 493
 494
 495
 496
 497
 498
 499
 500
 501
 502
 503
 504
 505
 506
 507
 508
 509
 510
 511
 512
 513
 514
 515
 516
 517
 518
 519
 520
 521
 522
 523
 524
 525
 526
 527
 528
 529
 530
 531
 532
 533
 534
 535
 536
 537
 538
 539
 540
 541
 542
 543
 544
 545
 546
 547
 548
 549
 550
 551
 552
 553
 554
 555
 556
 557
 558
 559
 560
 561
 562
 563
 564
 565
 566
 567
 568
 569
 570
 571
 572
 573
 574
 575
 576
 577
 578
 579
 580
 581
 582
 583
 584
 585
 586
 587
 588
 589
 590
 591
 592
 593
 594
 595
 596
 597
 598
 599
 600
 601
 602
 603
 604
 605
 606
 607
 608
 609
 610
 611
 612
 613
 614
 615
 616
 617
 618
 619
 620
 621
 622
 623
 624
 625
 626
 627
 628
 629
 630
 631
 632
 633
 634
 635
 636
 637
 638
 639
 640
 641
 642
 643
 644
 645
 646
 647
 648
 649
 650
 651
 652
 653
 654
 655
 656
 657
 658
 659
 660
 661
 662
 663
 664
 665
 666
 667
 668
 669
 670
 671
 672
 673
 674
 675
 676
 677
 678
 679
 680
 681
 682
 683
 684
 685
 686
 687
 688
 689
 690
 691
 692
 693
 694
 695
 696
 697
 698
 699
 700
 701
 702
 703
 704
 705
 706
 707
 708
 709
 710
 711
 712
 713
 714
 715
 716
 717
 718
 719
 720
 721
 722
 723
 724
 725
 726
 727
 728
 729
 730
 731
 732
 733
 734
 735
 736
 737
 738
 739
 740
 741
 742
 743
 744
 745
 746
 747
 748
 749
 750
 751
 752
 753
 754
 755
 756
 757
 758
 759
 760
 761
 762
 763
 764
 765
 766
 767
 768
 769
 770
 771
 772
 773
 774
 775
 776
 777
 778
 779
 780
 781
 782
 783
 784
 785
 786
 787
 788
 789
 790
 791
 792
 793
 794
 795
 796
 797
 798
 799
 800
 801
 802
 803
 804
 805
 806
 807
 808
 809
 810
 811
 812
 813
 814
 815
 816
 817
 818
 819
 820
 821
 822
 823
 824
 825
 826
 827
 828
 829
 830
 831
 832
 833
 834
 835
 836
 837
 838
 839
 840
 841
 842
 843
 844
 845
 846
 847
 848
 849
 850
 851
 852
 853
 854
 855
 856
 857
 858
 859
 860
 861
 862
 863
 864
 865
 866
 867
 868
 869
 870
 871
 872
 873
 874
 875
 876
 877
 878
 879
 880
 881
 882
 883
 884
 885
 886
 887
 888
 889
 890
 891
 892
 893
 894
 895
 896
 897
 898
 899
 900
 901
 902
 903
 904
 905
 906
 907
 908
 909
 910
 911
 912
 913
 914
 915
 916
 917
 918
 919
 920
 921
 922
 923
 924
 925
 926
 927
 928
 929
 930
 931
 932
 933
 934
 935
 936
 937
 938
 939
 940
 941
 942
 943
 944
 945
 946
 947
 948
 949
 950
 951
 952
 953
 954
 955
 956
 957
 958
 959
 960
 961
 962
 963
 964
 965
 966
 967
 968
 969
 970
 971
 972
 973
 974
 975
 976
 977
 978
 979
 980
 981
 982
 983
 984
 985
 986
 987
 988
 989
 990
 991
 992
 993
 994
 995
 996
 997
 998
 999
 1000
 1001
 1002
 1003
 1004
 1005
 1006
 1007
 1008
 1009
 1010
 1011
 1012
 1013
 1014
 1015
 1016
 1017
 1018
 1019
 1020
 1021
 1022
 1023
 1024
 1025
 1026
 1027
 1028
 1029
 1030
 1031
 1032
 1033
 1034
 1035
 1036
 1037
 1038
 1039
 1040
 1041
 1042
 1043
 1044
 1045
 1046
 1047
 1048
 1049
 1050
 1051
 1052
 1053
 1054
 1055
 1056
 1057
 1058
 1059
 1060
 1061
 1062
 1063
 1064
 1065
 1066
 1067
 1068
 1069
 1070
 1071
 1072
 1073
 1074
 1075
 1076
 1077
 1078
 1079
 1080
 1081
 1082
 1083
 1084
 1085
 1086
 1087
 1088
 1089
 1090
 1091
 1092
 1093
 1094
 1095
 1096
 1097
 1098
 1099
 1100
 1101
 1102
 1103
 1104
 1105
 1106
 1107
 1108
 1109
 1110
 1111
 1112
 1113
 1114
 1115
 1116
 1117
 1118
 1119
 1120
 1121
 1122
 1123
 1124
 1125
 1126
 1127
 1128
 1129
 1130
 1131
 1132
 1133
 1134
 1135
 1136
 1137
 1138
 1139
 1140
 1141
 1142
 1143
 1144
 1145
 1146
 1147
 1148
 1149
 1150
 1151
 1152
 1153
 1154
 1155
 1156
 1157
 1158
 1159
 1160
 1161
 1162
 1163
 1164
 1165
 1166
 1167
 1168
 1169
 1170
 1171
 1172
 1173
 1174
 1175
 1176
 1177
 1178
 1179
 1180
 1181
 1182
 1183
 1184
 1185
 1186
 1187
 1188
 1189
 1190
 1191
 1192
 1193
 1194
 1195
 1196
 1197
 1198
 1199
 1200
 1201
 1202
 1203
 1204
 1205
 1206
 1207
 1208
 1209
 1210
 1211
 1212
 1213
 1214
 1215
 1216
 1217
 1218
 1219
 1220
 1221
 1222
 1223
 1224
 1225
 1226
 1227
 1228
 1229
 1230
 1231
 1232
 1233
 1234
 1235
 1236
 1237
 1238
 1239
 1240
 1241
 1242
 1243
 1244
 1245
 1246
 1247
 1248
 1249
 1250
 1251
 1252
 1253
 1254
 1255
 1256
 1257
 1258
 1259
 1260
 1261
 1262
 1263
 1264
 1265
 1266
 1267
 1268
 1269
 1270
 1271
 1272
 1273
 1274
 1275
 1276
 1277
 1278
 1279
 1280
 1281
 1282
 1283
 1284
 1285
 1286
 1287
 1288
 1289
 1290
 1291
 1292
 1293
 1294
 1295
 1296
 1297
 1298
 1299
 1300
 1301
 1302
 1303
 1304
 1305
 1306
 1307
 1308
 1309
 1310
 1311
 1312
 1313
 1314
 1315
 1316
 1317
 1318
 1319
 1320
 1321
 1322
 1323
 1324
 1325
 1326
 1327
 1328
 1329
 1330
 1331
 1332
 1333
 1334
 1335
 1336
 1337
 1338
 1339
 1340
 1341
 1342
 1343
 1344
 1345
 1346
 1347
 1348
 1349
 1350
 1351
 1352
 1353
 1354
 1355
 1356
 1357
 1358
 1359
 1360
 1361
 1362
 1363
 1364
 1365
 1366
 1367
 1368
 1369
 1370
 1371
 1372
 1373
 1374
 1375
 1376
 1377
 1378
 1379
 1380
 1381
 1382
 1383
 1384
 1385
 1386
 1387
 1388
 1389
 1390
 1391
 1392
 1393
 1394
 1395
 1396
 1397
 1398
 1399
 1400
 1401
 1402
 1403
 1404
 1405
 1406
 1407
 1408
 1409
 1410
 1411
 1412
 1413